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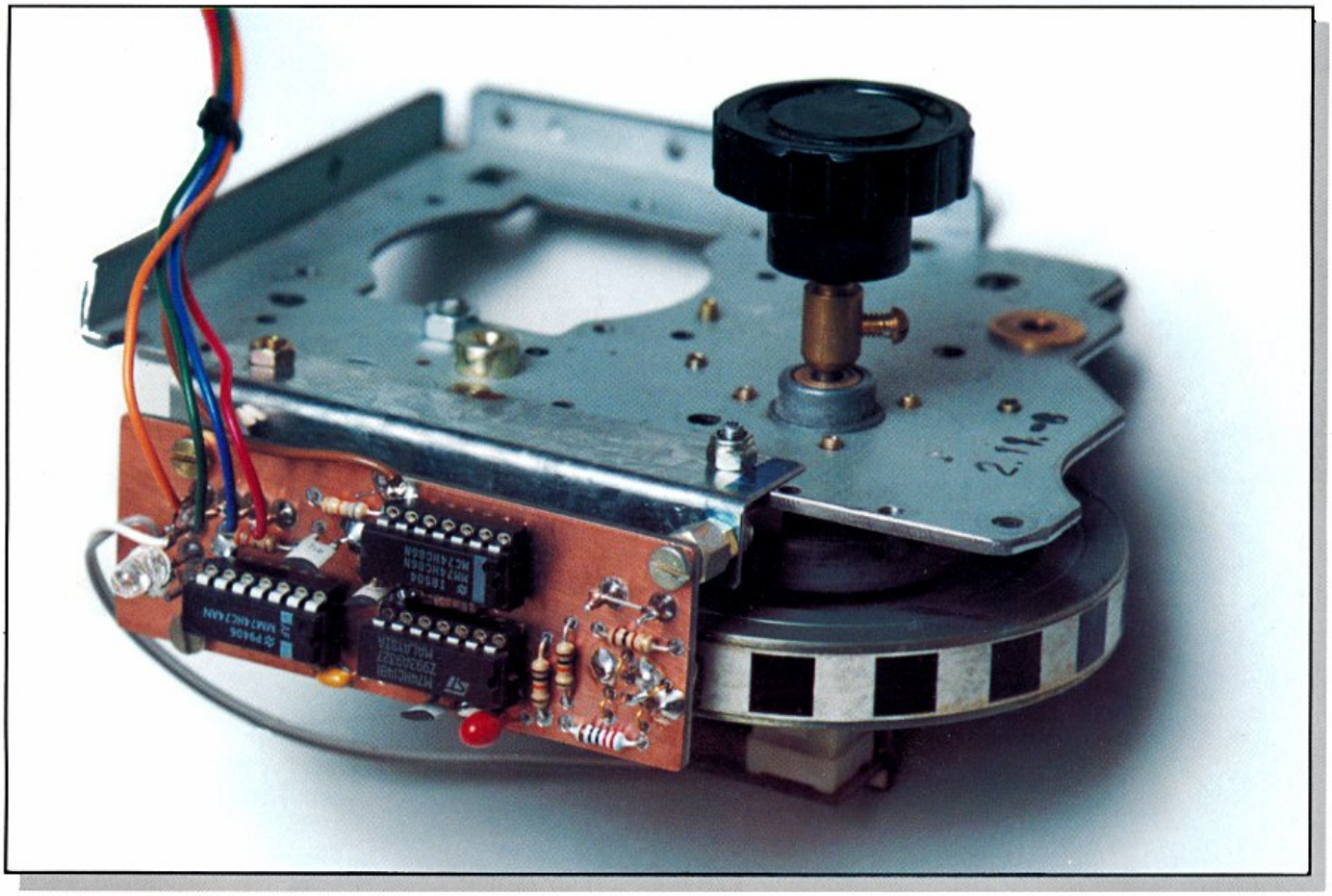

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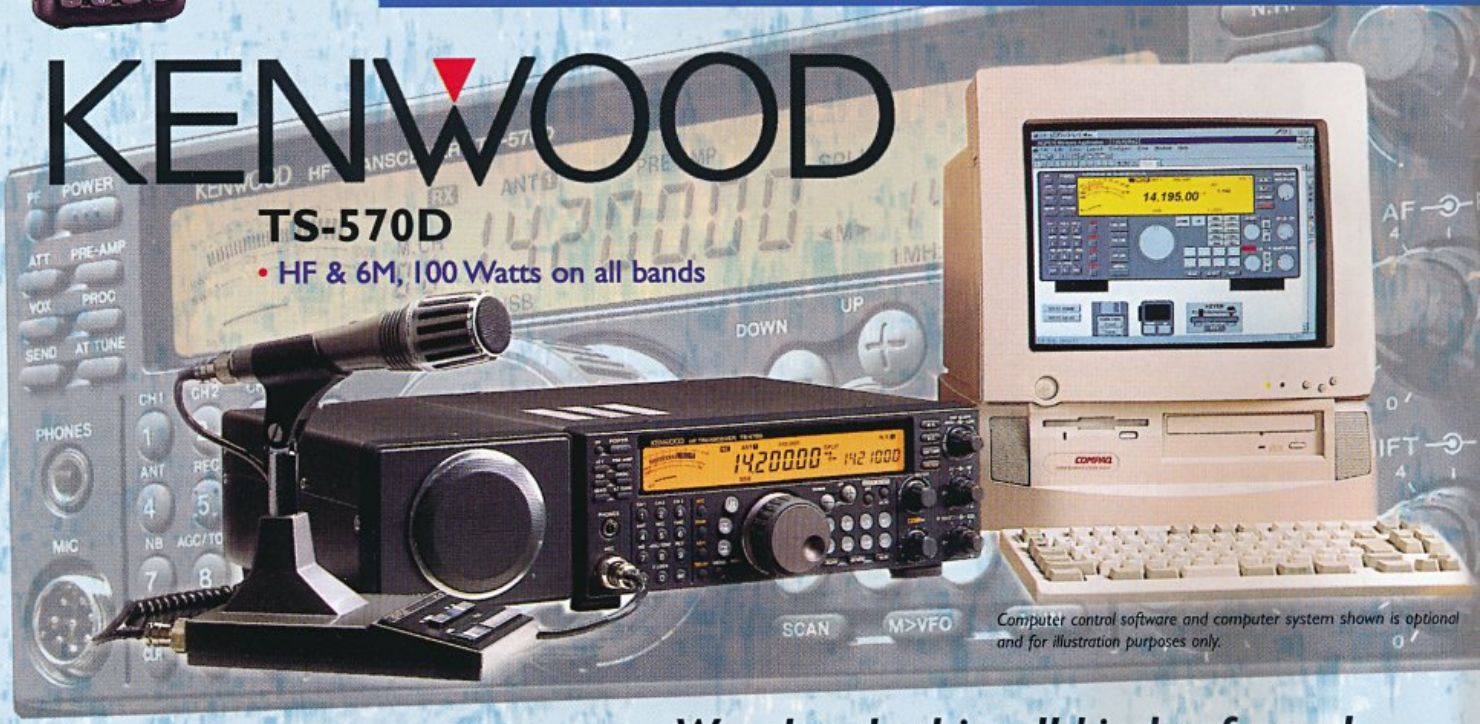

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Amateur Radio

Journal of the Wireless Institute of Australia

Vol 66 No 5 ISSN 0002-6859 May 1998

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Cover The shaft encoder for a digital VFO, constructed from the shaft, flywheel and bearing from a defunct VCR. An article by Keith Gooley VK5OQ on how to make this interesting device appears on page 6 of this issue of *Amateur Radio*.

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If this magazine is not received by the 15th of the month of issue, and you are a financial member of the WIA, please check with your local Post Office before contacting the registered office of the WIA.

CONTRIBUTIONS TO *AMATEUR RADIO*
Amateur Radio is a forum for WIA members' amateur radio technical experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for possible publication. Articles on computer disk or via e-mail are especially welcome. The WIA cannot assume responsibility for loss or damage to any material. A pamphlet, "*How to Write for Amateur Radio*", is available from vk3br Communications Pty Ltd on receipt of a stamped, self addressed envelope.

BACK ISSUES
Available direct from the WIA Federal Office, only until stocks are exhausted, at $4.00 each (including postage within Australia) to members.

PHOTOSTAT COPIES
When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus $2.00 for each additional issue in which the article appears).

DISCLAIMER
The opinions expressed in this publication do not necessarily reflect the official view of the WIA, and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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■ Viewpoint

Editor's Comment

A New Era Arrives

Our hobby of amateur radio is always changing, and sometimes a development is taken for granted, quickly becomes the "norm" of the day, and is considered "old hat" a few years later.

Not too long ago packet radio came on the scene with gusto and great promise. Before that we had RTTY, a mode of operation which itself went through a transition from teletype machine to "glass RiTTY" as the devotees described computer based amateur radio teletype.

Who remembers the craze for RTTY pictures? In Melbourne we even had a regular "RTTY Night Owl Theatre" on 2-metres which "screened" RTTY pictures.

This art-form had its foundation among keyboard telegram telegraphists, and was picked up by radio amateurs world-wide.

The use of RTTY on VHF is now virtually non-existent. Its demise has been blamed on packet radio which remains fairly popular. On the HF bands there's still AMTOR and its cousin error correction modes, but these are being challenged by packet.

Amateur television has had its ups and downs. The transmission of pictures by radio amateurs preceded the introduction of TV in Australia in 1956. ATV has gone from black and white, to colour.

Slow Scan TV has also gone colour, and even digital with software based programs, and computer generated facsimile transmissions

Traditionally, amateur radio has been greatly influenced by the availability of disposals equipment. A peak in RTTY popularity flowed from the release of former telex machines.

VHF activity was initially boosted by the availability of superseded mobile radios as used in taxis and the like.

This source of disposals gear began with the bulky all valve units that consumed more watts from the battery than they radiated up the stick. Then came hybrid transceivers with valves only in the finals, and followed soon after by fully solid state units.

A new era in this type of disposals equipment has arrived on the local scene with a real thump. We have available fully synthesised and scanning transceivers suitable for conversion to amateur frequencies.

Currently the Philips FM92 series of mobile radio, ideal for EPROM conversion to amateur frequencies, has become available in most states at really affordable prices. They can even be programmed for CTCSS encoding.

A new era has truly been born in our hobby. One wonders what the future will hold.

Jim Linton VK3PC
Guest Editor

ar

WIA News

David Thompson VK2NH
Federal Media Liaison Officer

Many Changes at Federal AGM

The 61st annual Federal Convention took place in Melbourne over the week-end of 28/29 March. To reduce costs, it has been decided not to hold any more quarterly Special General Meetings, so the Convention, as in earlier years, is also the Annual General Meeting.

Twenty five delegates and office-bearers took part in the discussions, while a former manager of the Federal Office, Donna Reilly, appointed as Minute Secretary, recorded all proceedings in shorthand.

Initial debate centred over procedural matters, but then moved on to the suspension of the Editor, which had been implemented for three months from mid-February (the suspension was in response to the publication in February of letters thought inappropriate). A majority of Councillors thought the suspension inappropriate and it was rescinded. Other topics discussed included the production of the 1998 Call Book and possible measures to improve the Institute's financial position.

After considerable discussion on the aims and objectives of the WIA and how best to achieve them, it was time to hold the ballot for the office-bearers. Initially there were three candidates for President and five for directors (three being required).

Peter Naish VK2BPN was elected President, so ceased to be an Executive candidate, as the President is automatically Chairman of the Board.

Roger Harrison VK2ZRH then withdrew his nomination, so the remaining three candidates were elected Directors, namely Martin Luther VK5GN, Wally Howse VK6KZ and Neil Penfold VK6NE, the first two being new faces on the Board.

A number of changes also occurred in the various co-ordinator positions. David Wardlaw VK3ADW retired as IARU Liaison Officer, and is to be replaced by Grant Willis VK5ZWI. David continues as ITU Conference leader.

Wally Watkins VK4DO resigned from the Radio Sport and ARDF positions. Roger Harrison VK2ZRH resigned from several positions, namely EMC/ Standards, International Beacon, and Media Liaison. We will miss you from *WIA News*, Roger! He also resigned from the ACA Liaison team and was replaced by Brenda Edmonds VK3KT. Peter Nesbit VK3APN retired as Contests Co-ordinator and was replaced by Ian Godsil VK3DID.

This year it was Australia's turn to be host to observers from the NZART, which was ably represented by Alan Wallace ZL1AMW (the President) and Murray Woodfield ZL1CN.

Overall, the Convention was more successful than had been initially feared. The significant differences between delegates on a number of topics were smoothed over in a spirit of amicable compromise. It is to be hoped that this continues.

A more detailed account of the Convention results may be issued later when the official minutes are published and some incomplete items dealt with.

The Federal Convention, being the annual general meeting of WIA Federal, is required to handle statutory matters according to Corporations Law. Due to the unavailability of an auditor's report, the Federal Convention delegates voted to adjourn the AGM to a date to be fixed.

It is anticipated that the AGM will be resumed and finalised as soon as practicable, enabling the new board to assume its management role.

Bill Rice VK3ABP

Federal President on the Internet

Newly elected WIA Federal President Peter Naish VK2BPN has assured the amateur community that it will have better value for money under his leadership.

He has made the comments in an address recorded shortly after he was elected Federal President. This recording gave him an opportunity to talk about his aspirations, feelings upon being elected and his sense of duty.

Peter who celebrates 50 years this year as a radio amateur, said he was honoured to have been elected Federal President of the WIA, the oldest amateur radio society in the world. The WIA has been in business since 1910. He also said, *"We need to concentrate on our core activities, working closely with national and international organisations to maintain our existing privileges and hopefully to extend them."*

Peter concluded, *"We will work to achieve a cohesive team, working together to provide members of the WIA a better environment in which to pursue their hobby. We will concentrate our efforts on reducing costs and improving output".*

He was speaking to WIAQ's Graham Kemp. You can retrieve the five minute talk by visiting the ftp site of the Queensland Division of the WIA. It is in Real Audio file format and of course is excellent quality. The address is *ftp.wiaq.powerup.com.au*

Proposed Regulatory Framework on RF Exposure in Australia

Here in Australia late last year, the Australian Communications Authority (ACA) moved in response to community concerns about possible adverse health effects from radiofrequency devices by proposing to mandate a standard, designed to limit human exposure to the electromagnetic radiation emitted by radio and telecommunications transmitters.

Changes to the Radiocommunications Act on 1 July 1997 enable the ACA to use new powers to mandate health and safety standards.

The proposed approach supports, and is consistent with, the current body of international scientific opinion that radiofrequency devices which operate in accordance with recognised human exposure safety standards, will not pose a health risk.

The mandatory standard proposed by the ACA will be based on the Australian Standard AS2772.1 (*Radiofrequency Radiation: Maximum Exposure Levels - 3 kHz to 300 GHz*).

The standard determines limits for the Specific Absorption Rate (SAR), which is a measure of electromagnetic energy absorbed by biological tissue. These limits are amongst the most stringent in the world and have large safety factors built in to assure protection against possible health effects.

The ACA has consulted with the community, as well as industry, to produce a paper which discusses the compliance framework and its implementation. The paper is titled, *Radiofrequency Electromagnetic Energy: Proposal for Mandatory Human Exposure Standards and Compliance Framework.*

Compliance with this standard will be required for devices such as cordless and mobile phones, handheld or portable amateur and CB equipment and remote control units.

Owners and operators of radiocommunications facilities will also be required to demonstrate compliance with the mandatory standard prior to issue or renewal of a radiocommunications licence. This requirement will be written into their licence.

At the time of writing further details of the implementation timetable of the regulatory standards were not known but will be advised in further issues of *WIA News*.

HELP WANTED

The WIA Federal Office is looking for a volunteer with Accounting experience to act in the capacity of Federal Secretary/Treasurer responsible to the directors.

This position would require spending a maximum of one day per month in the Federal Office at Caulfield Victoria for the purpose of looking over the prepared monthly accounts and attending to any statutory secretarial duties.

For further details please contact June Fox on: 03 9528 5962.

Written applications should be addressed to:

PO Box 2175
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Visiting the Land of the Long White Cloud?

Did you know that when visiting New Zealand, you can operate under NZART Reciprocal Licensing arrangements? More information can be obtained from the NZART Reciprocal Licensing Bureau, Russ Garlick ZL3AAA, 18 Harbour Road, Motueka 7161, New Zealand.

Any overseas licensed amateur visiting New Zealand can operate for up to a maximum of four weeks on 144 MHz and above. No application need be made and no fee is charged.

They operate using their home call-sign suffixed by ZL1, ZL2, ZL3 or ZL4, as appropriate to the area that they are visiting at the time.

They should be able, if necessary, to satisfy the Ministry of Commerce that they hold a current licence and/or certificate equivalent to the New Zealand Limited or General qualification, valid for the term of their visit. A copy of their current licence and/or certificate must be carried while in New Zealand. Usage meets the requirements of the New Zealand Radio Regulations 1987 and conforms to the terms, conditions, and restrictions applying to amateur apparatus operating in New Zealand.

A Permit may be obtained from the Ministry of Commerce for HF operation. Application forms and information are available from the Bureau as above: however, this has a two month lead time.

Visitors are advised to obtain a copy of the NZART Callbook, which contains amateur frequencies, band plans, repeater locations, branch information, and much other information. The Callbook will be of assistance to amateur radio visitors travelling in New Zealand and can be purchased from: The General Secretary, NZART, PO Box 40-525, Upper Hutt, New Zealand.

Clocking Up Good Service

Volunteer service within an organisation is always limited to a few who constantly put up their hands to do a job. Well known amateur, *Amateur Radio* columnist and WICEN member Gil Sones VK3AUI is one of these people.

He has achieved a true milestone by attending and being part of the support for 20 Murray Canoe Marathons. His first marathon was in 1972 and while he missed a few along the way, he clocked up 20 in 1997. This is a brilliant effort as I am sure you will realise when you consider that the marathon is run for five days straight between Christmas and the New Year.

Gil will receive due recognition from the Red Cross shortly in the form of a certificate. The certificates are awarded to all volunteers on the marathon for four years participation. This equates to 1,000 miles covered. Yes, you guessed it; Gil's certificate is for 5,000 miles.

If you are wondering why miles and not kilometres, the certificates were introduced when miles were the measurement of land distance here in Australia and it has remained that way until this day. Congratulations Gil on a job well done, proving that volunteer work does on occasions have its reward. I'm sure all who have known you and your effort through the years applaud this recognition.

Function Was Not a 'Belly Flop'

WIAQ News reports that after an embargo of several months the somewhat rounded details of a Sunshine Coast group social could be reported.

Apparently at the social arranged by June VK4SJ, at a Caloundra Greek restaurant, several of that club's 'elder statesmen' took to the floor with a genuine belly dancer.

Dickie Poo VK4BBA later claimed she was worth at least seven camels. There is no truth in the rumour that belly dancing has taken over from the foxhunt as one of the club's activities. But, it is believed that everyone has been watching their calorie intake ever since.

(Item, without extra comments, courtesy of Qnews.)

APOLOGY - MR DEANE LAWS

In the edition of the "Amateur Radio Journal of the Wireless Institute of Australia" published in May 1996 at pages 23 to 25 we published certain statements about an amateur radio operator which may have been understood by a number of readers to have referred to Mr Deane Laws and which were either wholly untrue or inaccurate.

In the article, under the heading "Threats", it was said that threats were made against the author's wife and children and inferred that they were made by the amateur radio operator referred to in the article under the heading "Complaints". These threats, whilst made, were not made by Mr Laws and any inference that they were is regretted.

The article was based on a talk given by Mr Hopper to amateur radio operators at Deloraine, Tasmania in March 1995. We unreservedly apologise to Mr Laws for the distress caused to him and his family by those untrue and inaccurate statements.

Technical

A Shaft Encoder for a Digital VFO

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One Tree Hill SA 5114
e-mail: *keith@senet.com.au*

It is quite possible these days for the home experimenter to construct a digital VFO using one of the new direct digital synthesiser ICs that are available. The excellent ARRL experimenters magazine, *QEX* described such a VFO (*Ref 1*). *Electronics Australia* also described a DDS oscillator designed by Tibor Bryce (*Ref 2*). This device was made available as a kit controlled from the printer port of a PC.

This article describes a device which I am using to provide control over an oscillator frequency like the tuning knob on a receiver or signal generator. Rotate the knob clockwise and the frequency increases, anti-clockwise to decrease. The *QEX* design used a commercial shaft encoder but I wanted to roll my own. I came across an excellent shaft, flywheel and bearing while dismantling a defunct VCR for parts. It was the main capstan and has a beautiful feel, ideal for a tuning control.

Around the periphery of the flywheel, a strip of paper was glued having alternate black and white squares, 16 of each. These were drawn up on a PC graphics package and with a bit of trial and error the total length was made equal to the circumference of the flywheel. A pair of reflective opto couplers sense the difference between the black and white, and the resulting signals are processed by a simple digital circuit as seen in Fig 1.

There are two basic outputs; one giving a six microsecond pulse for each black to white and white to black transition, and the other indicates direction, high for clockwise rotation and low for anti-clockwise. I adapted the circuit from the shaft encoder of the Racal RA3701 commercial communications receiver.

Some axial movement (in and out) of the tuning shaft was allowed so that when the tuning knob is pressed a switch operates and coarse tuning is activated. Pressing the knob again opens the switch, returning the tuning rate to normal.

Circuit Description

The LEDs in the opto-couplers are in series with a current limiting resistor and a switch. The latter provides a dial lock facility to hold the frequency at the current displayed value. The waveforms at the collectors of the photo-transistors are roughly sinusoidal as the shaft is turned and the dark to light (or vice versa) transition passes across the coupler.

The waveform is squared up by the two Schmitt trigger devices, IC1A and B. The exclusive OR gate IC2A produces a logic high if its inputs are at different logic levels and a logic low if they are

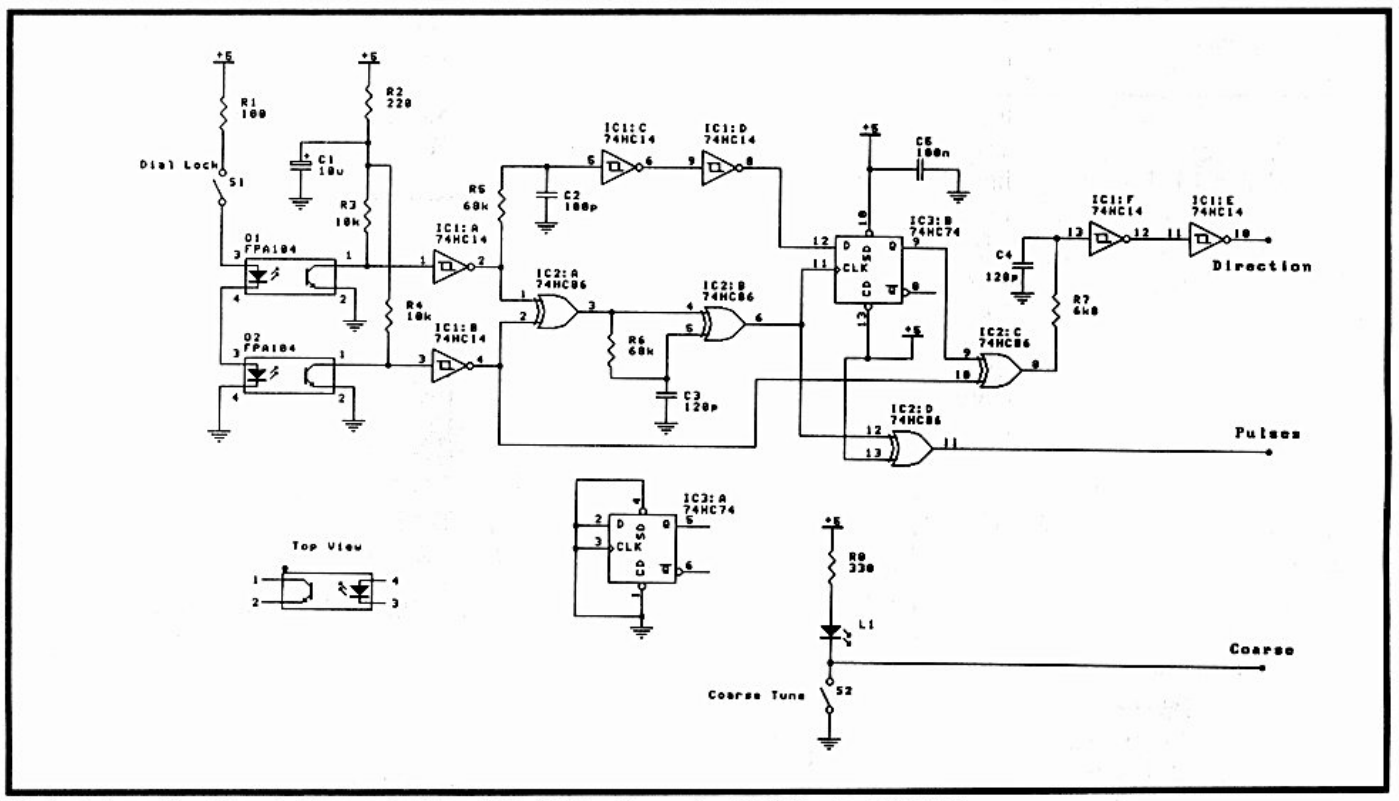

Fig 1 - Schematic of the shaft encoder for a digital VFO. *(Drawn by Keith Gooley VK5OQ)*

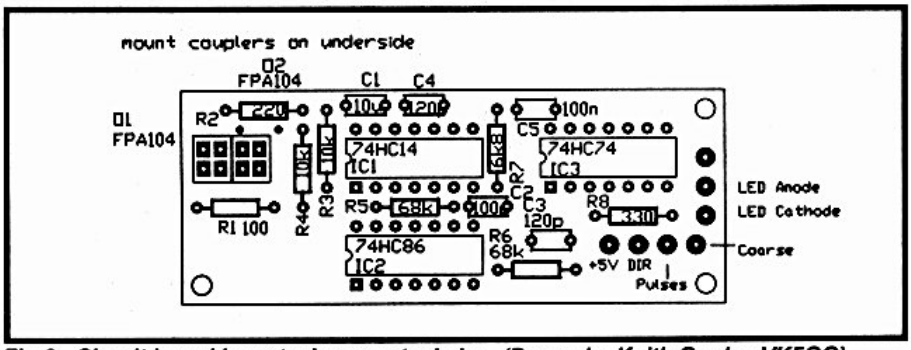

Fig 2 - Circuit board layout, shown actual size. *(Drawn by Keith Gooley VK5OQ)*

the same. Hence, if a transition of either polarity has passed one opto-coupler but not the other, the IC2A output is high and conversely if both couplers face the same square, the IC2A output is low.

Most of the time the two inputs to IC2B are the same and so its output pin 6 is low but, for a brief time after each transition of both polarities, pin 5 input remains in the opposite state to pin 4 due to the time constant of R6, C3 - about eight microseconds. During this period the output of IC2B goes high, generating a narrow clock pulse for the D-type flip-flop.

Meanwhile, the output of one of the opto-couplers is delayed by R5, C2 about seven microseconds before becoming the data input of the flip-flop. This logic level is transferred to the Q output on the positive transition of the clock. If this output is in phase with the output of the other opto-coupler, the output of IC2C is low and vice versa. This is the direction of rotation signal indicating whether a given transition occurred first on one opto-coupler output or the other. The signal is filtered by R7, C4 to remove any glitches and buffered by IC1F and IC1E.

The flip-flop clock pulses are inverted by IC2D to become negative going, one pulse for each transition of black to white or white to black.

The coarse tune switch is S2 and, when closed, places a logic low on the coarse tune output. LED L1 is also turned on to indicate that coarse tuning is active.

Construction

The layout of components on the circuit board is shown in Fig 2. The board is a piece of single sided copper laminate with the components mounted on the copper side and wiring on the underside. The two opto-couplers are mounted on the underside and the board is fixed so that they are in close proximity to the periphery of the flywheel. I used the layout of Fig 2 as a template for drilling the board and, then all holes which don't provide earth connections are slightly countersunk to avoid shorts to the ground plane.

I find this an excellent method of construction as the board can be laid out using a CAD program (Protel) and the layout optimised before construction is commenced. The low impedance ground plane promotes stability in RF circuits. If an etched PCB is warranted, double sided laminate is used and the underside only is etched. The ground plane side is protected from etchant by putting a Contact® adhesive sheet over it.

The photographs of the unit show the coarse tune switch on the rear end of the shaft. The switch is a DPDT push-on push-off type and is mounted on a bracket fabricated from pieces of copper laminate soldered together. The two poles of the switch are wired in parallel but of course there is no reason why a SPST switch cannot be used.

The flywheel and shaft are pushed towards the front panel by a length of flat spring rescued from a used set of ignition points. The end of the spring presses on a hardened ball at the centre of the flywheel resulting in only a small increase in friction and the shaft rotation is smooth and free, ideal for VFO tuning.

Components

Procurement of a suitable shaft and bearing is left to the individual constructor but there seem to be plenty of defunct VCRs around. The opto-couplers are available from: Vorlac Industries, 261 Huntingdale Road, Huntingdale VIC (PO Box 142, Huntingdale VIC 3166), phone (03) 9548 9229, fax (03) 9562 8772. The catalogue number is Z21056 and they are $1.50 ea.

The remaining components are readily available from any of the major electronics retailers.

References

1. Preuss C W WB2V - Building a Direct Digital Synthesis VFO - QEX July 1997.

2. Rowe J VK2ZLO - A PC Controlled Sweep Analyser - Electronics Australia September and October 1995.

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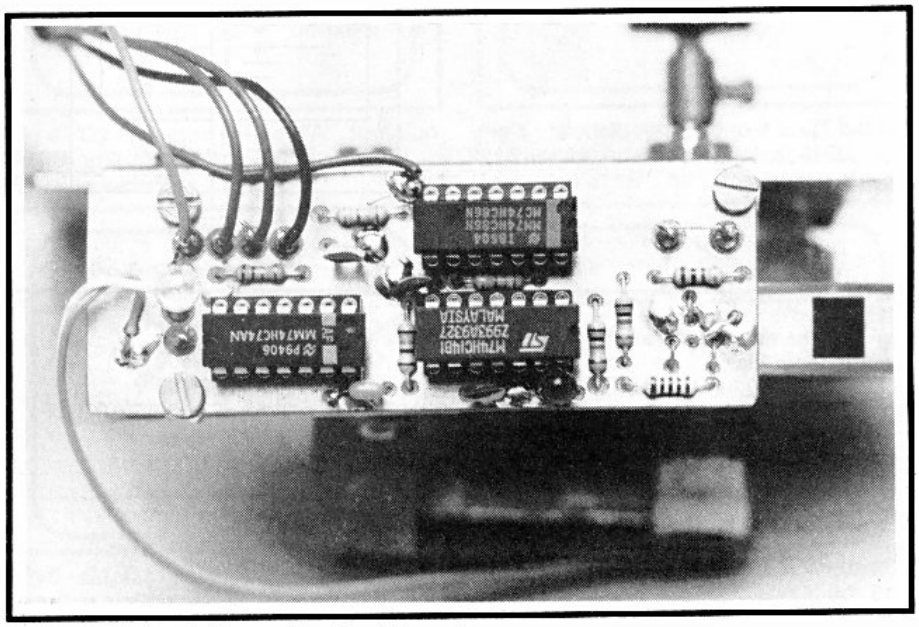

Close-up of the shaft encoder circuit board.

Test Equipment

Audio Oscillator and Function Generator

Paul Clutter VK2SPC
52 Keats Avenue
Bateau Bay NSW 2261

There are many audio oscillator and function generator circuits around but few include a saw-tooth with square and sine waves. As the circuit diagram shows, this design includes two separate generators.

Wien Bridge

The first is a Wien bridge with a 741 op-amp for the sine wave, which is an old standby from the ARRL Handbook.

The only change in the 741 op-amp circuit is a substitute for the 327 type globe connected between pin 2 and earth. The 327 is a 48 V 40 mA rated lamp but, as I did not know where to get one, I substituted two Grain-O-Wheats of 12 V 50 mA each in series - near enough to the 327. This globe is available from Dick Smith Electronics, Cat No P-8140.

This is an amplitude control device and some circuits use thermistors which ensure reasonably constant amplitude

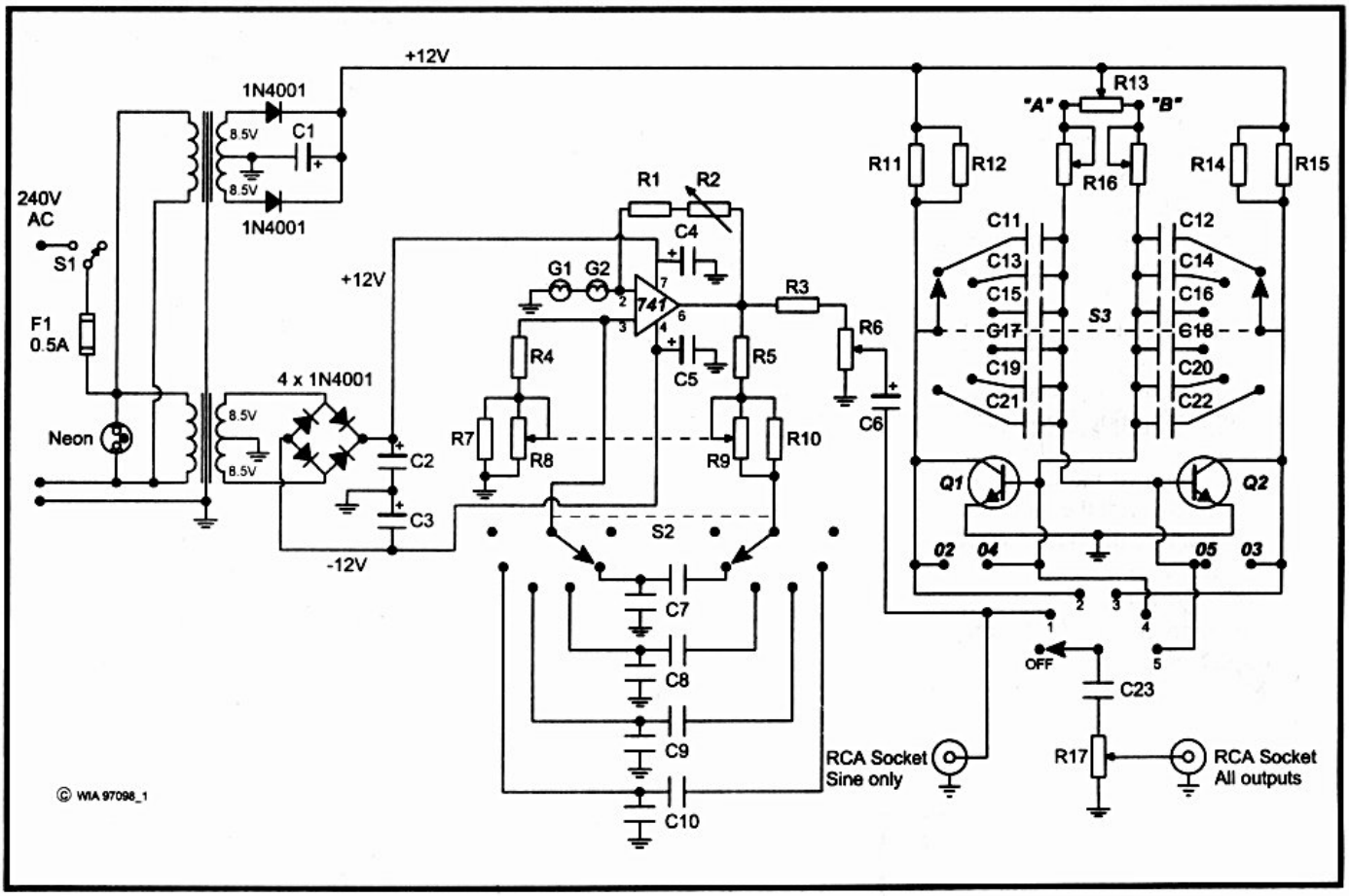

Fig 1 - Schematic of the audio generator.

Components List:

C1	2200 µF 16 V	C17, 18	47 nF 50/100 V	R11, 15	220 ohm 1 W 5%
C2, 3	1000 µF 16 V	C19, 20	15 nF 50/100 V	R12, 14	560 ohm ½ W 5%
C4, 5, 6	10 µF 16 V	C21, 22	3.52 nF (3.3 nF + 220 pF 50/100 V)	R13	10 k linear pot
C7	2 x 470 nF 50/100 V	C23	1 µF 50/100 V	R16	50 k linear dual pot
C8	2 x 100 nF 50/100 V	R1	100 ohm ½ W 5%	R17	10 k linear pot
C9	2 x 10 nF 50/100 V	R2	220 ohm Trimpot	S2, 3	2 x 6 position switch
C10	2 x 1.0 nF 50/100 V	R3	220 ohm ½ W 5%	G1, 2	12 V 50 mA "Grain-O-Wheat" globes (DSE Cat No P-8140)
C11, 12	1 µF 35 V Tantalum	R4, 5	2.2 k ½ W 5%		
C13, 14	470 nF 50/100 V	R6	10 k linear pot	Q1, 2	BC337 (or any suitable NPN transistor at least 500 mW and 1 MHz frequency)
C15, 16	147 nF (100 + 47 nF 50/100V)	R7, 10	27 k ½ W 5%		
		R8, 9	100 k linear dual pot		

with changes of supply voltage and ambient temperature. There is some momentary instability of output when changing frequency due to the thermal time constant of the globe or thermistor. Stable output is regained within one to two seconds.

R2 adjusts feedback, but allow five to 10 minutes warm up before adjusting to 5% below clipping. Check all ranges as the higher frequencies tend to clip more than the low.

Position No 1 on the function switch gives all the sine wave frequencies at the RCA socket "All outputs" (see Fig 1). A separate optional output RCA socket "Sine only" is also connected to position No 1 if both sine wave and square/ramp (saw-tooth) waves are wanted on a double beam oscilloscope.

A Stable Free Running Multi-vibrator

The square and ramp (saw-tooth) waves are generated from the astable free running multi-vibrator with an extra component R13 (10 k potentiometer) which adds pulse width and ramp shape control.

I am aware of the various IC chips and other circuits but the multi-vibrator was my choice as the saw-tooth was needed for sweep experiments and new ideas on RF tuning.

The basic operation of the multi-vibrator is well described in many textbooks, so I will bypass that and move on to the extra controls.

With the 10 k pot (R13) at the centre position, the square waves at Q1 and Q2 collectors and the ramp waves at the bases are symmetrical as both have equal R and C and voltages. When shifting between "A" and "B" of the 10 k pot (R13), the width of the pulse can be changed and, together with the frequency and amplitude controls, a variety of timing and shapes are possible. Likewise, the duration and amplitude of the ramp shape can be changed (see 'scope diagrams).

Operation

As the measured frequencies are different from those calculated by the formula, due to variation in capacitor tolerances (usually 10%) and resistors (5%), anyone who constructs this oscillator as per the circuit diagram will likely find some difference in the measured frequencies.

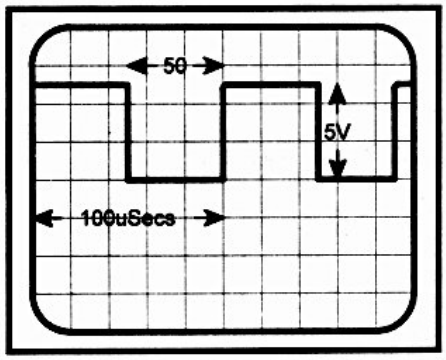

Fig 2 - Q1 Q2 collectors, 10 k pot (R13) centre, function switch at positions 2 and 3.

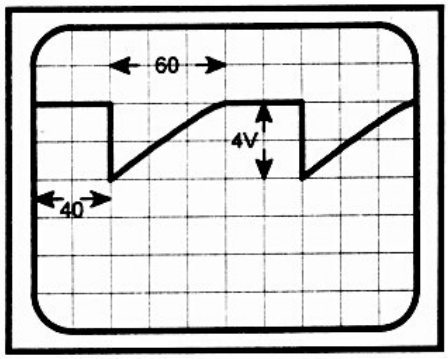

Fig 6 - Q1 base, R13 at "A", function switch at 4. Q2 base, R13 at "B", function switch at 5.

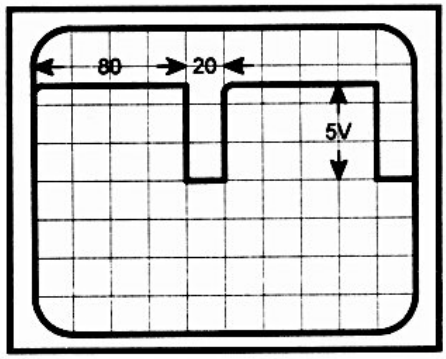

Fig 3 - Q1 collector, R13 at "A", function switch at 2. Q2 collector, R13 at "B", function switch at 3.

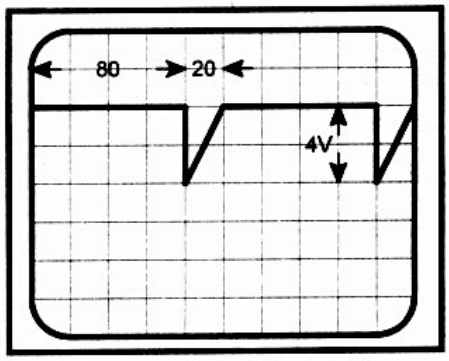

Fig 7 - Q1 base, R13 at "B", function switch at 4. Q2 base, R13 at "A", function switch at 5.

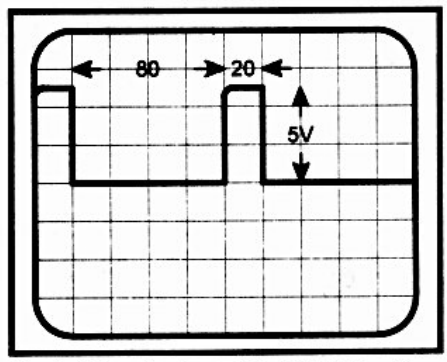

Fig 4 - Q2 collector, R 13 at "A", function switch at 3. Q1 collector, R13 at "B", function switch at 2.

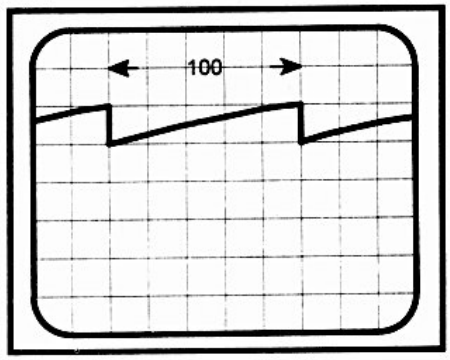

Fig 8 - Vertical reduced to 2 V. Q1 base, R13 at "A", function switch at 4. Q2 base, R13 at "B", function switch at 5.

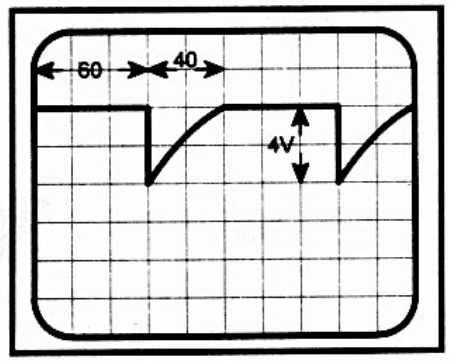

Fig 5 - Q1, Q2 bases, R13 centre, function switch at positions 4 and 5.

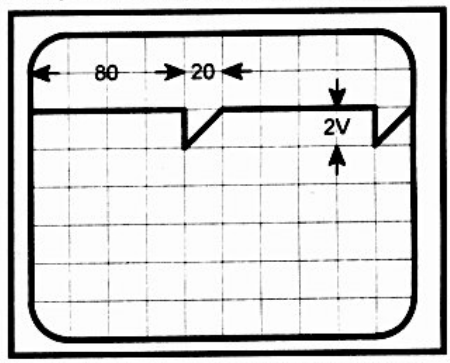

Fig 9 - Vertical reduced to 2 V. Q1 base, R13 at "B", function switch at 4. Q2 base, R13 at "A", function switch at 5.

However, there should not be any gaps between the switching positions of minimum and maximum frequencies.

The range of the 741 sine generator is from about 15 Hz low to 50 kHz high in four steps. The range of the multi-vibrator is about 40 Hz low to 45 kHz high in six steps. The measurements were taken by the time base frequencies of the oscilloscope.

Referring to the eight scope diagrams, the time base was set at 20 micro-seconds per division which equals 100 micro-seconds for one Hz, equal to a 10 kHz frequency of the multi-vibrator. This was just a random frequency to give an idea of the waveforms possible.

The two transformers in the power supply were junk box items which supplied the two different modes, the dual voltage for the 741 op-amp and the single voltage for the multi-vibrator.

O2, O3, O4 and O5 on the circuit diagram are terminals for oscilloscope connections, coming directly from the multi-outputs which correspond to those numbers on the function switch, thereby leaving the RCA "All outputs" socket free for other uses. **ar**

■ **History**

Those Were the Days!

John Scougall VK5YY
46 Piccadilly Road
Crafers SA 5152

Listening to the words of this popular song one day, I was carried back to the halcyon days of amateur radio around 1964, long before mobile phones and Internet saw the light of day. This was when $US200 would buy the Heathkit linear amplifier which boasted 1200 watts PEP - globe circling SSB power at tremendous savings and extra years of dependable, trouble free performance. I still have one.

A Hallicrafters three band SSB transceiver with RIT (Receiver Incremental Tuning) and AALC (Amplified Automatic Level Control), the SR160 would set you back $349.50 with an additional $99.50 for the AC power supply/speaker.

By January 1968, we saw the Hurricane SR2000 transceiver, also from Hallicrafters, which was a transmitter, receiver and linear amplifier all rolled into one (this sold for $995 in the USA with the PSU at $395), and its more modest companion the Cyclone 3 which was more suitable for Australian requirements. This model covered all the amateur bands of the day and featured a notch filter, RIT, PTT and VOX. It was equipped with a pair of 6KD6s which worked hard enough to need an in-built fan.

Although the state-of-the-art transceivers of today are worlds apart from the old warriors of the 60s, I find I have no need to apologise on the odd occasion that I put them on the air. Once they have gone through the warm up stage they are relatively stable and the audio quality is on a par with the duck-talkers we hear on the band now. At least no one has called me to task for unreadable signals.

ar

John VK5YY with the SR400A (Cyclone 3) on the right, and next to it the SR160.

■ Mobile

50 Years of Mobile Radio Operation

Les Brennan VK4XJ
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This article is not intended to be an instructional article on the installation of mobile equipment, but the ideas expressed may be of help to others interested in the subject.

Mobile and portable operation has held a special interest for me since obtaining my present call VK4XJ more than half a century ago. This interest was fostered, no doubt, by service with Signals in New Guinea during World War II.

Early Post War Years

We had no mains power connected to our home when I returned after WWII. A 12 volt lighting plant had to supply all the power for the house and the amateur radio station. Genemotors from an ex-army Type No 11 set were used for the HT supply, a 250 volt one for normal low power output and a 350 volt one for higher power output with a maximum transmitter input power of about 15 watts. I should mention it was necessary to operate on CW for the first six months before being granted a phone permit.

In the early post war years it was necessary to obtain permission from the Superintendent of the local Radio Branch to operate the station away from the home address. Should the operation be interstate, permission had to be obtained from the Chief Inspectors' Office, Melbourne; even so, many amateurs applied for such a permit each time they wanted to go mobile or portable.

My first portable operation away from home was in early 1949 with an ex-army Type A Mk 3 transceiver (it was even taken on our honeymoon). This transceiver was a crystal controlled low power portable that was used mainly for special and spy type work during WWII.

In the 1950s, like most other amateurs, equipment was home made and I made up a 7 MHz transceiver with a 2E26 valve for the final stage. This was amplitude modulated by the audio output stage of the superhet receiver, and a disposals genemotor provided about 250 volts for the HT supply. The transmitter input power was less than 10 watts.

Mobile antennas were usually home made and for some time a base loaded 8 ft whip made from a military tank whip was used. Later, a centre loaded version was made up and this proved to be an efficient mobile antenna system; for a single band antenna this would be as good as any commercial mobile antenna available today. A piece of round nylon about 50 mm in diameter and 125 mm long, tapped at the ends, was grooved for the turns of the coil which was wound using silver plated wire from a disposals transmitter coil. The former was made up on a lathe and had inserts at each end that held the two 4 ft lengths of tank whip (copper coated steel tube). An ex-army antenna base was mounted from the rear bumper of the Austin A40.

Mobile Equipment in the 1960s

Commercial transceivers, antennas and solid state power supplies became available, and the FC Holden car of that vintage had sufficient room to carry such equipment. Having a steering column gear change, it had sufficient room under the dash to mount the HF transceiver on the transmission hump.

At this stage, mobile equipment was updated to a Galaxy transceiver, and an

The TS-50S mounted to the right of the gear lever console, the Uniden 27 MHz CB set mounted between the gear lever console and the centre storage console, and the Uniden UHF CB set and Kyokuto 2 m FM transceiver mounted inside the centre storage console (shown with its lid raised).

Aztec solid state power supply replaced the genemotor in the engine compartment. A set of helical whips was made up from the details in *Amateur Radio*, March 1965, designed by the late Max Swaby VK4DA. These whips worked very well and were not so noticeable as the larger mobile antennas.

A mild steel bracket bolted under the off-side rear of the car, and extended just clear of the bumper bar, was used as a support for the base of the mobile HF antennas. This outfit proved to be a really good mobile station. It could run 100 watts output on any of the five HF bands. The only trouble was the excessive power drain from the car battery; this was about 13 amps on receive, mainly to light up the valve heaters. One night, with the head lights on and operating mobile for a couple of hours on a trip, I found the battery completely flat when switching off the engine at a service station!

Another antenna used at this time was a Webster Bandspanner. This antenna performed very well but is a heavy antenna and at times worked loose, damaging the 3/8 inch thread on the mount. The spring at the base of the antenna was not sturdy enough, allowing the antenna to bend too far back at touring speed so it was guyed by a piece of nylon cord to the rear of the car. In time, after many mobile miles, trouble developed with the wiper spring making contact with the correct turn of the internal coil to tune the antenna, and this needed attention.

In the 1970s

With the availability of a completely solid state transceiver, such as the Atlas 210X, the DC/DC power supply was no longer required and the heavy valve heater drain no longer a problem.

There was plenty of room to fit the Atlas into our new Valiant. With a steering column gear change, the Atlas was able to be mounted on the transmission bump. A set of Scalar whips was used in place of the Webster Antenna. This was quite a good mobile HF outfit 25 years ago.

In the 1980s

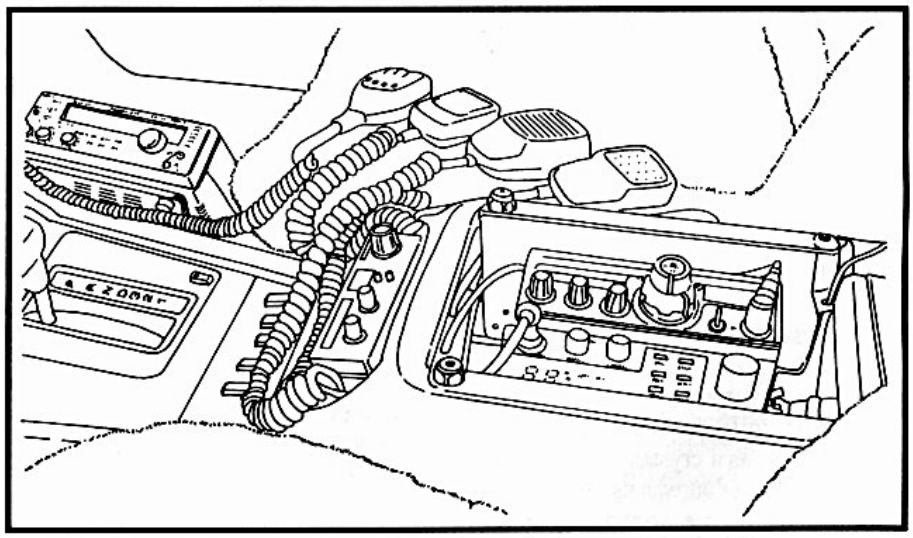
After having the Valiant written off in an accident in 1984, it was time to look for another car. With mobile activity in mind, the requirement was for a large car with automatic transmission and a steering column gear change. Such a car was a 1980 V8 Fairlane. The Atlas transceiver and Scalar whips were easily transferred over to the Fairlane.

Over the years, interest in mobile activity continued to grow and a two metre Kyokuto transceiver was fitted between the driver's seat and the centre mounted small seat in this car. The 2 m antenna was a quarter wave whip on a knock down mount mounted on the gutter on the driver's side. A 70 watt Mirage amplifier for 2 m sat on the floor underneath the driver's seat.

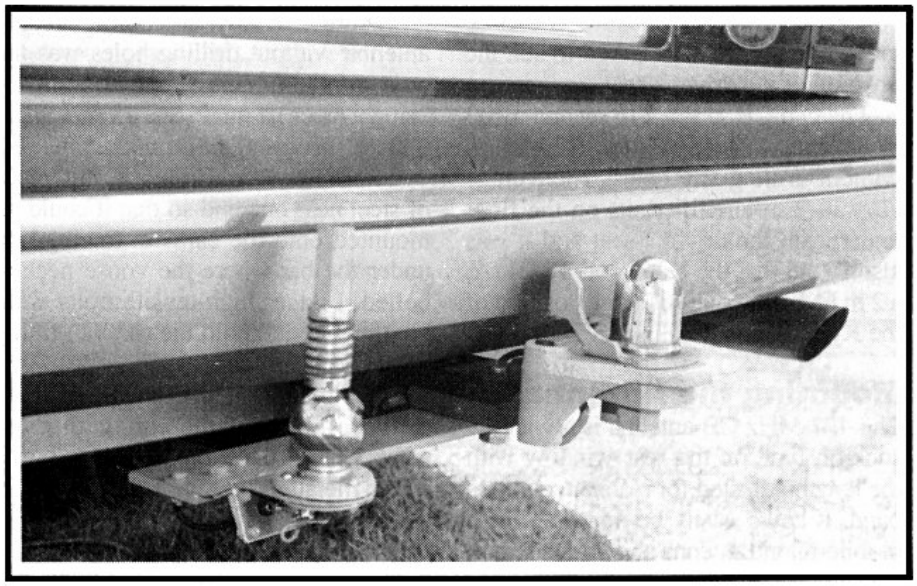
In the 1990s

There was room alongside the Kyokuto transceiver to fit a 70 cm Kenwood TM-421 transceiver running about 20 watts output. The 70 cm antenna was a commercial windscreen type mounted on the inside of the windscreen. This seemed to work well enough for the limited type of mobile repeater operation undertaken on this band.

Having bought a caravan and retired from work in 1986, we went touring with friends who were not amateurs but had CB. We then added an AM 27 MHz, and also a UHF FM CB set to the list of transceivers, making a total of five transceivers. The 27 MHz and UHF CB sets were mounted in a vertical position alongside the transmission hump. The 27 MHz antenna was a short whip from



A line drawing of the photo above clearly shows the layout of the mobile transceivers and microphones.



The HF antenna mount at the rear of the car (see text for details).

Tandy, about 300 mm long, mounted on the passenger's side roof gutter. This band was only used to keep in touch with the cars in sight and a larger 27 MHz antenna was carried in case it was needed.

The UHF CB antenna was a quarter wave whip mounted on a Z bracket at the side of the bonnet, near the BC antenna. A 3 dB gain-type was carried in case it was needed. Although five antennas were fitted to the car they were not very noticeable. In most cases only one transceiver was used at the one time. The 2 m whip was folded down when not in use and the HF Scalar whip was only fitted when required, such as travelling on a tour. Around the city, the antennas were not too obvious.

It wasn't long before it was decided to fit the Kenwood TS-430S on the transmission hump, in place of the Atlas, for extended touring. The Atlas in its mount will fit inside the Kenwood mount and was often used like this for local HF mobile work to save having to disturb the home station TS-430S.

Automatic Antenna Tuners

About this time a new type of antenna tuner was purchased. This was a Ranger (Smart) Antenna Tuner and was mounted in the boot of the Fairlane, connected by a short heavy lead to the base of the antenna mount.

For an antenna with this system, an ex-army tank whip 250 cm long was used and this was tuned automatically by the Ranger antenna tuner to any HF frequency required in and between the 10 and 80 metre bands. Although the efficiency may not have been quite as good as resonant whips on the lower frequency bands, it worked well enough, and was very convenient in band changing while moving along.

On 14 MHz and higher, results were very satisfactory. The convenience of not having to change antennas when changing bands was a great bonus.

Power Supply Leads

With this installation the 12 volt lead was not heavy enough, even though it was a separate feed from the battery. At times distortion showed up on SSB due to the poor power supply regulation. It was found that a large computer capacitor, connected across the 12 volt terminal strip (under the seat) that feeds the HF transceiver, helped to reduce this distortion.

A New Mobile Installation in 1995

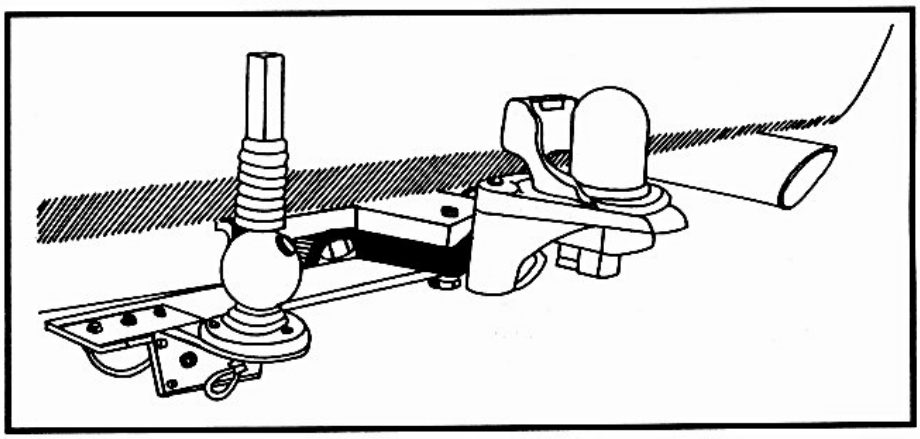
After having the 1980 Fairlane for over 10 years, and the odometer up to 250,000 km, mainly pulling a caravan all over and around Australia, it was time to consider changing cars. A 1991 V8 Fairlane was chosen because a large car was still required for caravan work.

At last we had to face the fact that Fairlanes are no longer available with steering column gear change, and these cars seem to have computers to control nearly everything. It was decided that this new project would be made an interesting challenge. How do you install all this equipment into a modern car without drilling any holes and taking all the precautions so that the car computer equipment is not damaged?

For days it was necessary to back the car out and just sit and meditate as to how best to do this installation.

Equipment Required

In this car a Kenwood TS-50S was to be used with an AT-50 automatic antenna tuner for HF work in place of the TS-430 and the Ranger antenna tuner. Also, a 2 m transceiver with the 70 watt amplifier, a 27 MHz AM CB set, and a UHF FM CB transceiver. It was decided not to install the 70 cm FM transceiver because so little operation had been done on this band while mobile and, if required later, a dual 2 m and 70 cm set could be fitted.



A line drawing of the HF antenna mount at the rear of the car.

It was necessary to have an auto electrician install the electric brake controller for the caravan, so I gave him the job of running a heavy duty multi-core screened cable for the plus and minus 12 volt supply from the battery, and also two co-ax cables, through the firewall. At the battery end of the 12 volt cable I mounted a 30 amp relay-type cut-out, using a spare hole in the car frame near the battery carrier. The other end of this cable was terminated in a plastic box fitted with a control switch, fuse, and several four pin Plessey connector sockets with each pair of pins connected in parallel (this type of connector is used for all 12 volt connections in the car and around the home station).

Mounting the Transceivers

Fitting three transceivers into the compartment of the centre column console in this Fairlane is possible. When the plastic inner frame of this compartment is removed, quite a large area is available, large enough to mount two small units. A sheet of aluminium was made into two brackets, fitting a sheet to each side of this compartment, and screwed into place using the previous top mounting screw holes. This was for mounting the two small transceiver brackets, one to each side.

It was necessary to fit a couple of longer buffers under the lid of this compartment to get sufficient depth. It was also necessary to modify the microphone connectors and bring the leads out at a right angle so that the lid would fit down. Now we had the Uniden UHF CB set and the Kyokuto 2 m set mounted in this compartment. In front of this area is a large plastic grommet covering a large space behind the gear lever. Removing this grommet covering revealed enough room to mount the Uniden 27 MHz CB set.

For HF operation, the TS-50S transceiver was mounted on a sheet of aluminium of sufficient size that it fitted in under the plastic covering of the centre column console and held the TS-50S in a vertical position on the driver's side of the centre column. A piece of timber shaped to fit under the heat sink helped to support the TS-50S on the floor of the car, thus allowing clearance for the connecting cables. The TS-50S can be moved to and fro as required to suit the position of the driver's seat.

The two CB sets, a 2 m set and a 100 W HF set were mounted in position without drilling any holes. The Mirage 70 watt 2 m amplifier sits on the floor underneath the driver's seat and it was also found that the Kenwood TS-211A, a 2 m FM set, would fit in the position of the Kyokuto.

Mounting the Antennas

The 477 MHz CB antenna is a window stick-on type on the rear window with the length adjusted for resonance in this band. It could easily be mistaken for a mobile-phone antenna and does not look out of place on the car. The coax for this antenna had to run along under the carpet near the off-side doors and around the rear of the rear seat to the window mount.

Two Z type brackets were purchased and mounted either side of the bonnet and held in place by existing screws in the car body. There was just enough room for the bonnet to close over the bracket and RG-58AU coax.

Of the two leads installed by the auto electrician, one was for the 27 MHz AM set and the other for the 2 m band quarter wave antenna. I prefer to use a quarter wave antenna on 2 m because of appearance; also, the antenna does not whip around as much, causing less flutter, and causes no trouble driving through the garage doorway.

The HF Antenna

It was decided to use only resonant antennas with this car, such as a set of Scalar HF Whips, and not to use the Ranger automatic antenna tuner because of fear of trouble with the car computers. The Kenwood AT-50 automatic antenna tuner was mounted inside the boot and held in place by a bracket that was secured to existing holes in the side of the boot floor. A wooden box was made to cover this unit for protection.

A special connector cable is available from Kenwood (PG-4M 6 metre cable) to connect the TS-50S inside the car to the AT-50 mounted in the boot. Another length of RG-58AU was run with this control cable under the carpet to the side of the doors and along into the boot to the AT-50.

Where and how to mount the HF antenna without drilling holes was the next problem. This was overcome by using a piece of mild steel 75 mm wide, 300 mm long and 6 mm thick.

Two holes were drilled in this piece of steel near one end so that it could be mounted onto the caravan towing bar, under the bar where the goose neck is bolted. Longer high-tensile bolts were now required to hold the caravan fitting goose neck.

The 300 mm length of steel runs along to the off-side of the car so that the antenna clears the number plate. A lighter plated metal bracket protrudes from this strong support, and onto this is mounted the antenna mount and spring.

The coax cable from the AT-50 runs through a grommet hole near the spare tyre well and along inside a thin piece of plastic conduit fitted under the 30 mm steel plate to the base of the antenna.

The light metal bracket, protruding from the heavy steel plate that holds the antenna spring on its top side, is fitted with a couple of sockets underneath so that the TS-50 in the car can be connected to a resonant external antenna in place of the mobile whip. Also, the transceiver inside the caravan can be connected to the mobile antenna on the back of the car.

This mobile installation has proved a very satisfactory arrangement.

In closing, here are couple of quotes from a Queensland Transport booklet.

"Forward mounting should only be undertaken when it is impossible or impractical to install the antenna to the rear of the vehicle".

"Only one antenna may be fitted to the front of a vehicle and must be fitted to the left side. The maximum diameter permitted is 75 mm".

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Technical Abstracts

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Caulfield Junction VIC 3161

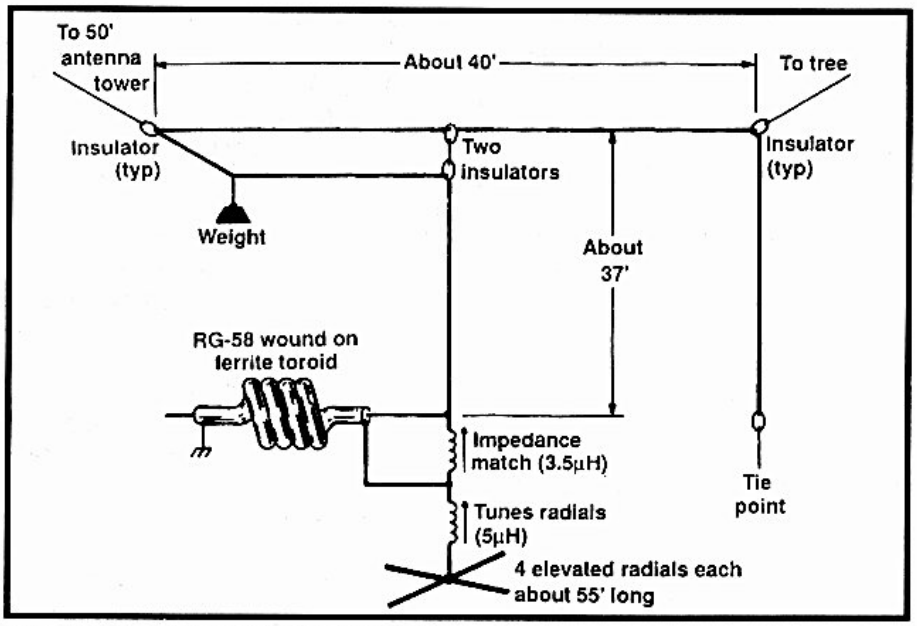

Fig 1 - The S92SS 160 Metre DX Antenna.

S92SS Limited Space Antenna for 160 Metres

A solution to the need for a 160 metre DX antenna appeared in the *Radio Fundamentals* column of Bill Orr W6SAI in the August 1997 edition of *CQ Magazine*. The antenna was the one developed by Charles S92SS to get on 160 metres from Sao Tome e Principe.

Charles S92SS had a number of problems which he had to tackle to produce a 160 metre antenna. The yard was small and partially covered by a concrete deck.

Elevated radials were used, as buried radials were not feasible. These radials were only about 55 feet long and could not be run in straight lines. Four radials were used and a loading inductor was used between the radials and the coaxial cable shield.

The radiator was a quarter wave wire which had to be folded up as shown in Fig 1. The top of the antenna was supported by lines to a tower and a tree.

The coaxial feedline was wound onto a ferrite toroid which had been salvaged from a TV set horizontal line transformer. This was done to limit RF on the feedline outer which might upset the equipment in the shack.

During tune-up, RF currents flowing in conductors were assessed using a simple RF current indicator which is shown in Fig 2. This uses a split ferrite core such as is sold by MFJ and others. Tandy, DSE, Jaycar and others may have suitable cores which are sold for EMC work. The lamp is a low power pilot lamp, and transmitter power should be adjusted so the lamp does not burn out when making comparisons. The lamp could be a 6 V 50 mA type if you haven't got the USA type used.

Tune-up consisted of adjusting the radiator length, and the radial tuning and the matching inductors for minimum SWR. The three adjustments also had to be trimmed so as to have minimum current in the coaxial cable outer as well as minimum SWR, and to avoid heating in the choke in the coaxial feedline. This also coincided with best field strength. The current was minimum in the coaxial feedline outer, and the current in the antenna wire was the same as in the ground system and was split evenly between the radials.

This was a somewhat complex iterative process of tuning up but a good signal was the reward. The whole antenna is built using fairly limited resources and gives an idea of what can be done to get a signal on air.

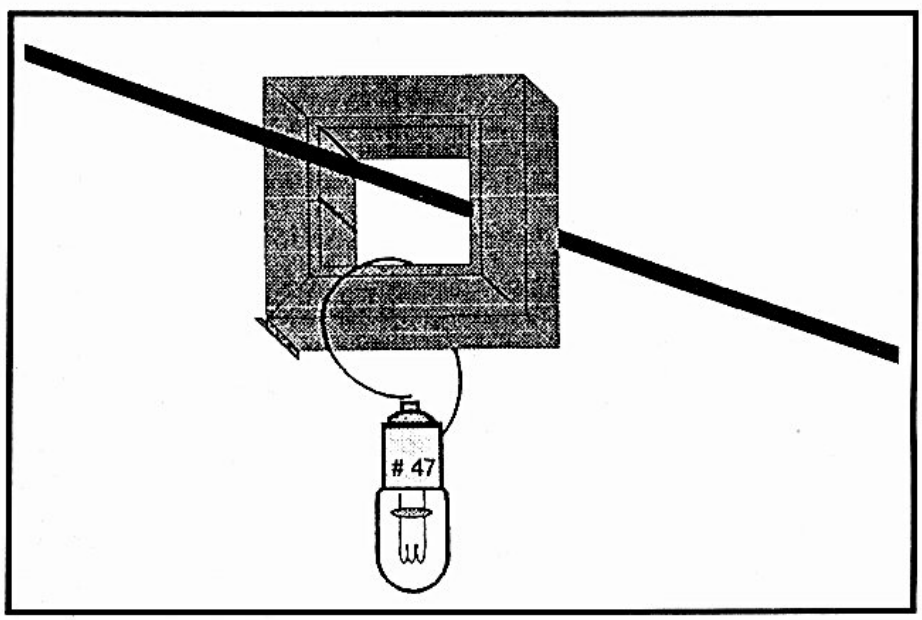

Fig 2 - Simple RF Current Indicator.

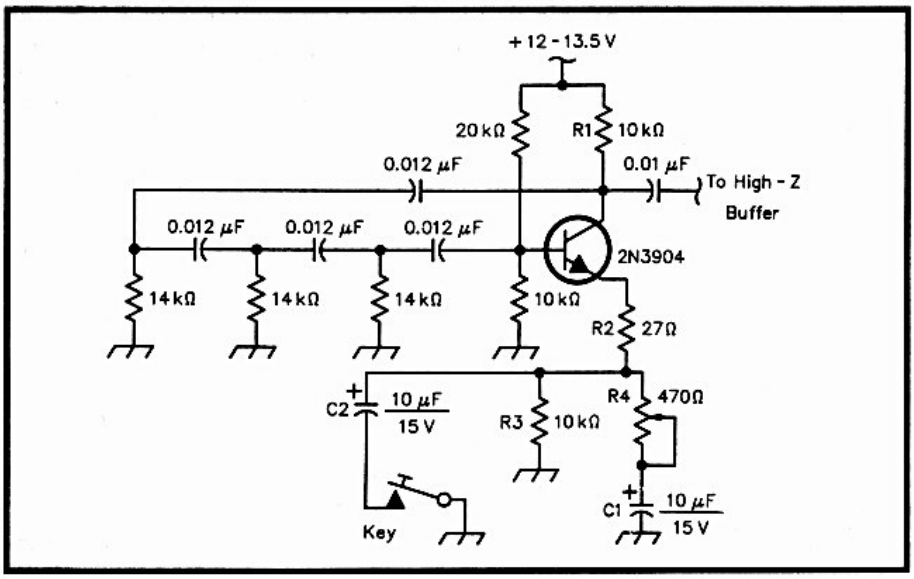

Fig 3 - K7OWJ Sidetone Oscillator.

CW Sidetone Oscillator

It is often difficult to produce a good CW Oscillator for sidetone or as a practice oscillator. A sine wave output without clicks and chirp, although desirable, is hard to produce.

A circuit for a suitable oscillator appeared in the Bob Schetgen KU7G edited *Hints and Kinks* column in the December 1997 issue of *QST*. The design is the work of Denton Bramwell K7OWJ.

The circuit is given in Fig 3. It is a basic phase shift oscillator and it is keyed so as to shift the gain just above and below the point at which oscillation occurs. This results in keying which is shaped and without clicks and chirp as the changes between key up and key down are minimal.

The circuit is arranged with R1, R2 and R3 chosen to give a gain of 1. R4 and C1 are adjusted to the point where oscillation just ceases with the key up. They set the AC gain to a point just short of the point of oscillation. The key shunts the capacitor C2 in parallel, increasing the gain so that oscillation occurs.

The onset of oscillation is influenced by the value of R2 which is chosen so that the gain is sufficient for oscillation and the oscillation onset is nicely shaped. This should not need to be adjusted but can be used to vary the turn-on of the oscillator.

The output of the circuit is high impedance at about 10 k. However, it should feed just about any amplifier. The circuit draws very little current. At initial switch-on, the first few dots stabilise the circuit.

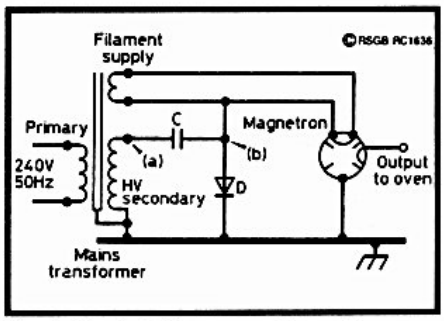

Fig 4 - Typical Microwave Oven Power Supply.

Microwave Oven Transformers

More information concerning the use of microwave oven transformers for high voltage power supplies for linear amplifiers has been published.

In the *Technical Topics* column of Pat Hawker G3VA in the January 1998 issue of *RadCom*, information concerning the working and characteristics of the microwave oven power supply from John Lawrence GW3JGA was published. This explains the operation of these power supplies which make use of high leakage reactance to provide regulation.

There were two references given. The first was to an article *Microwave Oven Power: A Technical Review* by John E Gerling in J Microwave Power, EE, 1987. The second reference was to US Patent 3,396,342 to Feinberg of Advance Transformers which covers a low cost form of regulation. The idea was developed in the mid 1960s.

In *QEX*, Jan/Feb 1998 issue, Randy Henderson WI5W presented a linear amplifier high voltage supply using microwave oven power transformers. Randy had a way of overcoming the high leakage reactance and so achieving better regulation. The power supply circuit cannot be given but it was fairly conventional. Unfortunately, it used direct rectification of the AC line voltage to provide a screen supply. This is a safety hazard, particularly in Australia.

The typical circuit of a microwave oven supply is shown in Fig 4. The circuit

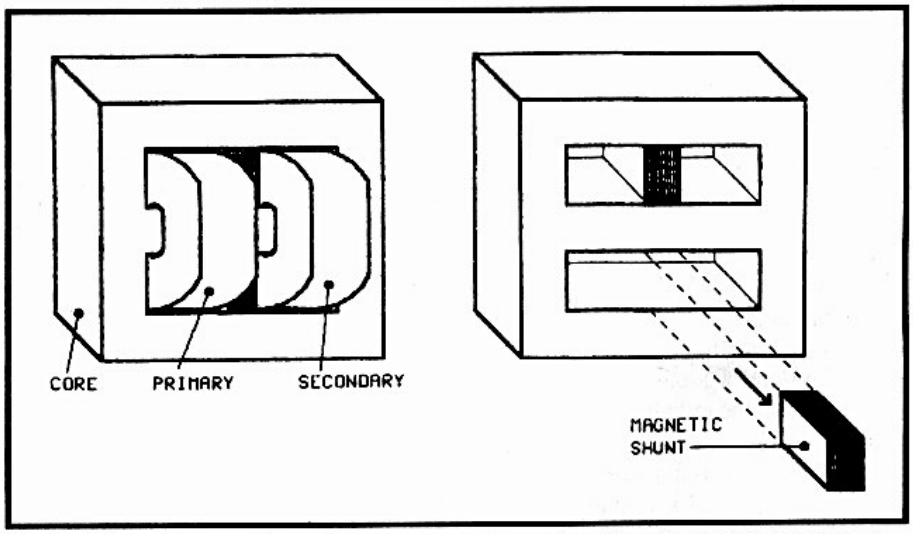

Fig 5 - Microwave oven transformer core and construction showing shunt to be removed.

is fairly basic when stripped of all the timer circuitry. Regulation is obtained by using a transformer with fairly high leakage reactance. This may result in poor voltage regulation under the different requirements for a linear amplifier power supply.

Randy found that many transformers were constructed with magnetic shunts to provide the leakage reactance. These shunts were pressed in place and could be removed. This should not result in any damage to the windings and insulation if care is taken when removing the magnetic shunts. Transformer construction showing the placement of the shunts is shown in Fig 5. The shunts are pressed in very tightly and may be held together with a rivet.

To remove the shunts, wooden blocks are placed under both sides of the core to keep the windings clear of the work surface. The shunts are then driven out with a hammer and a punch. Another way of holding the core is to fasten it to a solid frame whilst removing the shunts. Remember, the idea is to remove the shunt without damaging the windings, insulation, or core. A two pound hammer and a punch with a flat end almost as big as the shunt is recommended.

Some have removed the secondary windings in order to rewind a low voltage winding. This can be done by cutting the HV winding away with a wood chisel. Sufficient room is left to wind a low voltage winding on to the core. This may be difficult as it is often impossible to disassemble the core. You would have to wind into the window previously occupied by the HV winding.

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RF Exposure on Capitol Hill

Well, it had to happen! The subject of RF exposure has been legislated on in a big way. Where? You guessed it, in the United States!

The American Radio Relay league (ARRL) has just released a book explaining and listing the things US amateurs have to do to comply with RF radiation legislation as passed by the US Congress to enable them to operate an amateur radio station. This legislation is of course to be enforced by the FCC.

The publication called 'RF Exposure and You' attempts to bring amateurs to terms with the new RF exposure rules, which David Sumner K1ZZ, President of the ARRL, says *"are now a part of the regulatory landscape (in the United States) and are likely to remain so"*.

The book was written with a mind to make understanding of the RF exposure rules easier and to emphasise that *"with this information, you will be able to operate your station legally and safely - and you **will** be able to operate"* said David Sumner.

(Thanks to the ARRL for this news item.) **ar**

WIA QSL Bureaux

The official list of VK QSL Bureaux. All are Inwards and Outwards unless otherwise stated.

VK1	GPO Box 600, Canberra ACT 2601
VK2	PO Box 73, Teralba NSW 2284
VK3	40G Victory Blvd, Ashburton VIC 3147
VK4	GPO Box 638, Brisbane QLD 4001
VK5	PO Box 10092, Gouger St, Adelaide SA 5000
VK6	GPO Box F319, Perth WA 6001
VK7	GPO Box 371D, Hobart TAS 7001
VK8	C/o H G Andersson VK8HA Box 619, Humpty Doo NT 0836
VK9/VK0	C/o Neil Penfold VK6NE 2 Moss Court, Kingsley WA 6026

Repeater Link

DTMF Decoder

Will McGhie VK6UU
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Packet: VK6UU@VK6BBR
E-mail: *will@vale.faroc.com.au*

After designing and building DTMF decoders over many years, I have put all the ideas together and produced the accompanying circuit. The result uses as few components as possible and is simple to understand.

Part of the circuit appeared with the remote mute in the March 1998 *Repeater Link*; for a description of the audio amplifier, frequency compensation and BCD-to-decimal decoder, refer to this article.

Code Store

Once the DTMF digit is decoded from the 4028 IC, the single digit is of little use as it is. A code or string of digits is needed for control of a particular function and three digits is a good choice. The single digit from the 4028 BCD-to-decimal decoder is not latched and is only there while the corresponding DTMF tone is present. Pushing buttons 1, 2 and 3 produces a sequential high on digit 1, 2 and 3 out of the 4028.

As soon as button 2 is pushed, the high on digit 1 out of the 4028 goes low. What is required is a brief store of digit 1 and then digit 2. This is done by the 4.7 µF capacitor and 1 M resistor on the inputs to the 74HC11 3 input AND gate. Digit 1 goes high and is stored for two seconds as is digit 2 stored, followed by digit 3 resulting in all inputs to the gate being high and hence the output of the gate goes high.

This is where a choice of code is made. The circuit shows digits 1, 2 and 3 as on and 8, 9 and 0 as off. Connect any three digits to the top AND gate for on, and any three digits to the bottom AND gate for off. The circuit from this point on

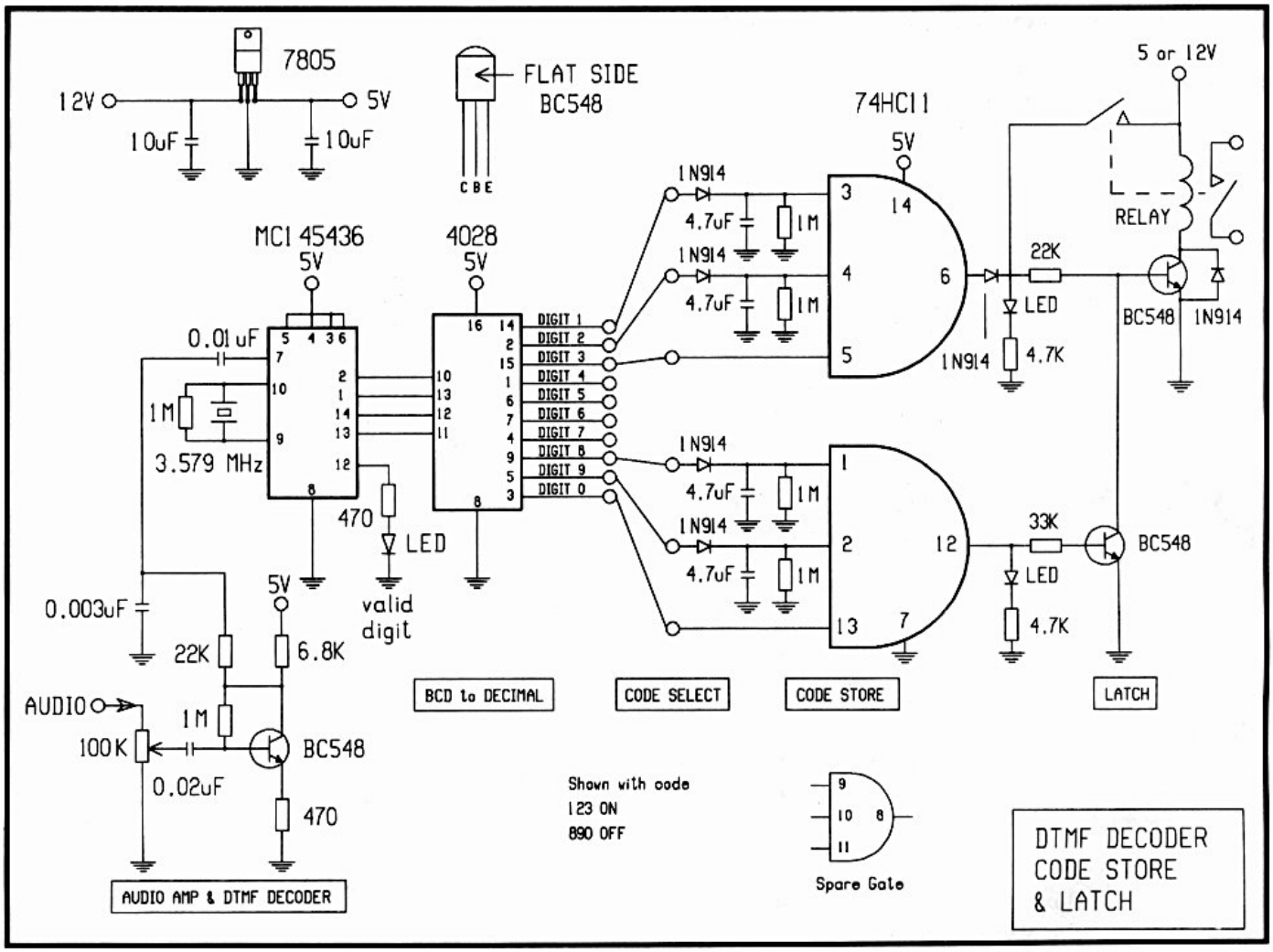


Fig 1 - Schematic of the DTMF decoder code store and latch. ***(Drawn by VK6UU)***

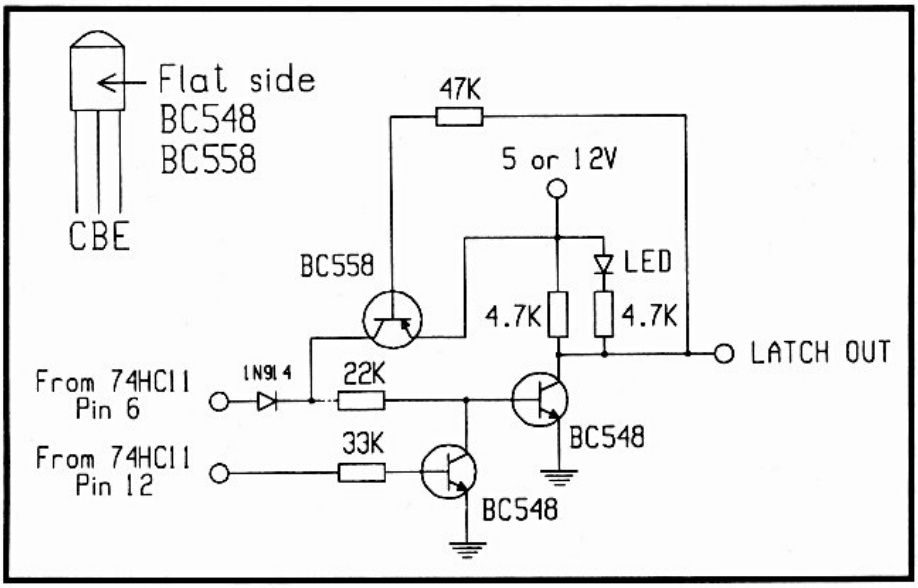


Fig 2 - Schematic of the alternate latch for the DTMF decoder. ***(Drawn by VK6UU)***

would have to be duplicated for more on/off functions; only the DTMF decoder and BCD to decimal remain common.

Note that with the circuit as shown, the first two digits can be reversed and still result in a valid code. This may be a concern for some applications and in next month's *Repeater Link* I will present some alternate code store circuits courtesy of Mac VK6MM.

Latch

This high out of the gate, however, is only there while the gate storage remains high and the final digit is high. What is required is a latch at the output of the code gate.

After experimenting with many different latch integrated circuits, I did not find one that I liked. For this type of use, the latch has to have separate inputs for a given DTMF to turn on and a different DTMF code to turn off. Also, the latch must power up in the same default mode each time.

Many latch integrated circuits do have power up reset defaults but the output of the latch still has to drive a relay or transistor. Putting all these requirements together resulted in the latch circuit as presented.

The high from pin 6 of the 74HC11 goes high turning the BC548 on and this transistor operates the DPDT relay. One set of contacts from this relay is used to latch the driver transistor on and hence the relay as well.

Once the output of the 74HC11 goes low, the relay remains on. The second relay contact is used to control whatever you require and remains latch on until the off code is sent.

The off code from pin 12 of the 74HC11 goes high, turning the accompanying transistor on and shorting out the base of the relay driver transistor to ground. This causes the relay to drop out and the latching voltage via the relay contacts to be removed as well. Once the off code stops the relay remains off.

The on code latches the relay on and the relay remains on until the off code is received. Included also is a transistor-only latch circuit that can be used in place of the relay latch. The output of this latch is a logic level change. Both the relay latch and the transistor latch can operate from five or 12 volts, depending on your requirements. Of course, the relay needs to be changed to match the voltage that is used. The rest of the circuit runs from five volts regulated.

Alternate Latch

If you don't like the relay latch, then the second circuit shows a transistor latch. Output of this latch is a logic output. Note the LED indicator circuit. If you use just a resistor and LED in series, the latch latches on its own due to the voltage drop across the LED, even when the LED is not drawing current. LEDs act a bit like a Zener and this lower voltage is enough to turn the BC558 on. The shunt resistor across the series resistor/LED combination overcomes this problem. The LED can be omitted if you don't require an indication of the latch state.

Construction

There are many options when it comes to constructing this circuit. As mentioned, the DTMF decoder chip and the BCD-to-decimal chip only require one off. However, the code store gates and latch circuits have to be duplicated for each on/off function. The 74HC11 gate IC has three gates per chip, one of which is not used.

Perhaps the best way to construct the DTMF decoder is to have one board for the common DTMF and BCD-to-decimal chip, followed by a second board for the code select and store function, with a third board for the latch relay driver function. Remember, if you require several on/off outputs the amount of circuitry multiplies resulting in considerable component space.

There are many variations to this circuit, but the intention was to produce a simple DTMF decoder with as few components as possible, that is easy to understand and, as a result, easy to construct and fault find. Next month, a few options.

ar

Construction

Making Boxes with Ordinary Tools

Drew Diamond VK3XU
45 Gatters Road
Wonga Park VIC 3115

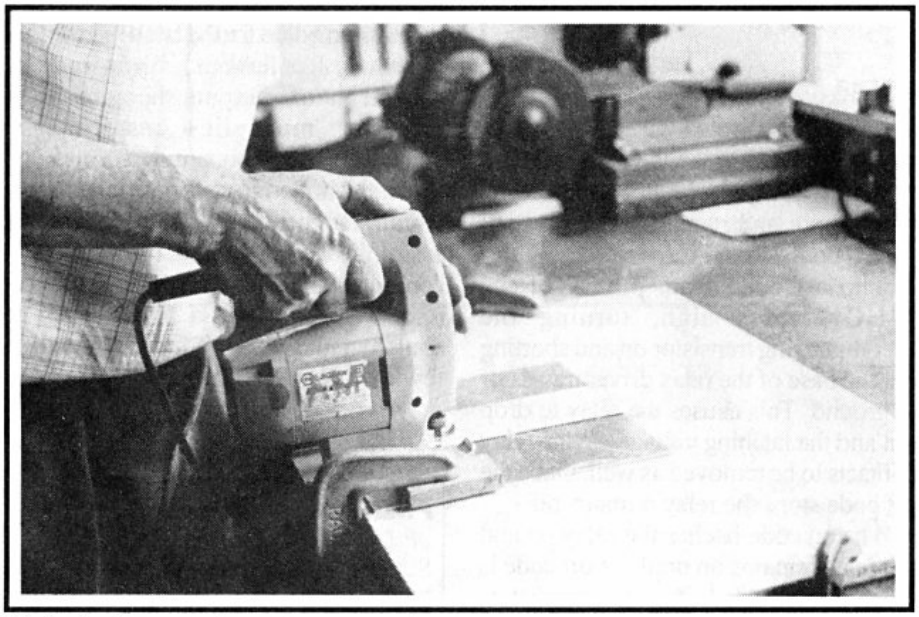


Photo 1 - Jig-saw set-up.

So, you've collected all the components for that planned project. Now for a nice case to house the job. But the ready-made boxes available are not quite right, or too expensive. Few amateurs have ready access to the sort of guillotines and benders used by professional sheet-metal workers. However, quite good equipment enclosures can be made with tools ordinarily found in the home workshop.

Aluminium sheet is generally regarded as the most appropriate material for one-off electronics projects. It is easily worked by the amateur, and available in several thicknesses. Pay a visit to your local aluminium merchant. Remember to bring your plan and a tape-measure. My bet is that just inside their door you will find a bin marked something like "*Off-cuts 50% off*". With a little delving you should find some material to suit the job in hand (and perhaps one in the planning stage too). Buy a bit more than you think you'll need. Unless you are very lucky, the sheet(s) available will be either smaller or larger than required.

Without a sheet-metal guillotine, sheets larger than can be cut with an ordinary hack-saw may be rather awkward to reduce to size. Try an electric jig-saw. A short length of Eclipse (TM) junior hack-saw blade, about 50 mm, produces a narrow kerf (blade gap) and, with practice, yields a reasonably smooth edge which requires very little filing.

Photo 1 shows the idea. An adequately sized piece of chip-board (or similar) has a 3 mm wide saw-cut about half way in to accommodate the jig-saw blade. Using two G-clamps, the chip-board is fixed to the workbench with sufficient over-hang to allow the blade to operate without striking the bench. Accurately rule a line on your sheet metal where the cut is to be (metalworker's motto: *measure twice - cut once*).

Now, using a G-clamp each side of the line, fix the sheet onto the chipboard with the line aligned over the cut-out. Remember to make the jig-saw cut on the waste, or "non-critical" side of the line. A strip of masking tape along each side of the line will protect the sheet from being scratched by the foot plate of the jig-saw. Always wear approved safety specs when using power tools of any kind. Clean up rough edges with a flat mill file.

With the sheet cut to size, carefully mark where the bends and holes must be. A black felt-tipped marker pen is ideal as background for accurate marking. Use a sharp pointed scriber as your marking tool. Centre punch all intersections where holes are to be drilled. To avoid errors, it is a good plan to note the hole size adjacent to the punch mark (see Photo 2). It is generally better to drill and cut all holes before making any bends, as the sheet is much easier to work when flat. Where a lid or cover is required, measure up and make this component after the basic box has been bent as described below.

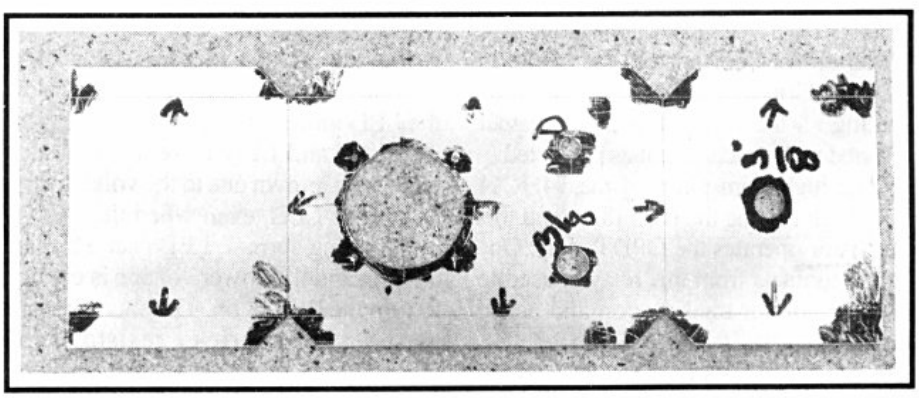


Photo 2 - Job marked out and holes drilled.

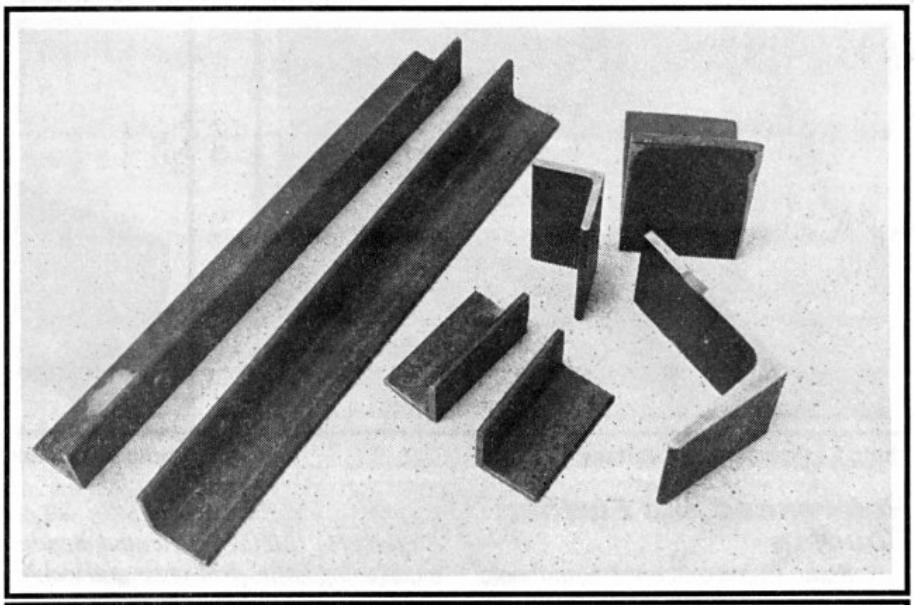
Angle-iron is still regarded as one of the most useful home metalworking aids. You will need a pair of irons about 300 to 400 mm in length, perhaps longer for bigger jobs, and some smaller lengths which are dictated by box dimensions. Part of my collection is shown in Photo 3. This material is remarkably cheap. A visit to your local steel merchant (off-cut bin again) should offer a good selection of pieces - typical price is about 50 cents each.

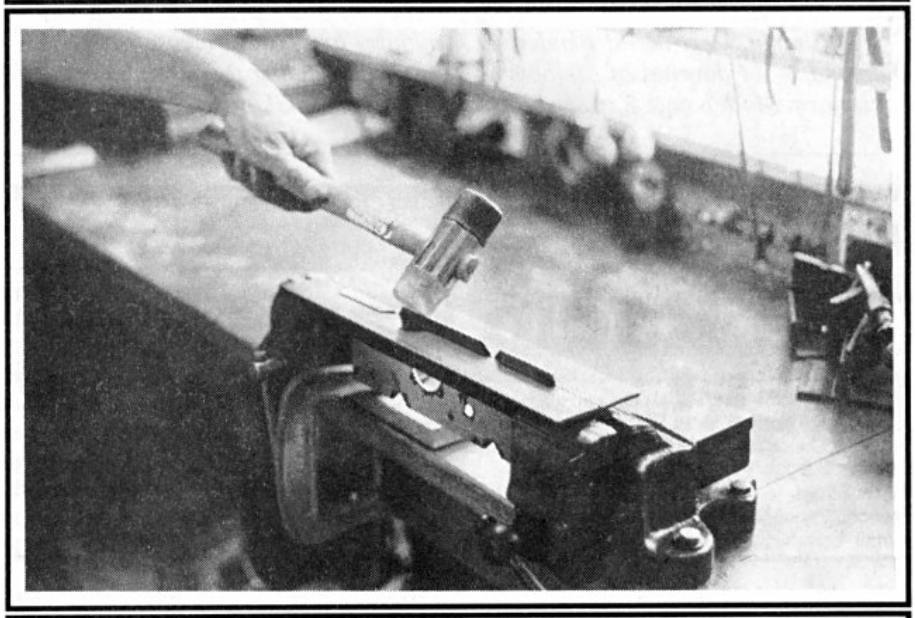
Photo 4 shows one approach to bending longer lengths. Our customary bench vice is augmented by a second vice, which may be G-clamped to the bench at an appropriate distance, with jaws in-line. The job is then firmly clamped in this "super-vice" as shown. Using a nylon faced hammer (or an ordinary hammer with a rubber cup fitted onto the face), carefully dress the bend over, a little at a time, by working up and down the length until a smooth 90-degree bend is obtained.

Smaller length bends can generally be performed in the bench vice. Select or make an iron which is a nice fit inside any existing bends (see Photo 5). Note the scraps of hardwood fitted into the vice jaws to protect the job, and to obtain an interference free grip on the iron. A third piece of hardwood is held in one hand as shown in order to prevent the hammer marking the job.

If the box is to be painted, or to remove any small imperfections in the surface, the box should be prepared with a medium grade emery paper, as shown in Photo 6. Avoid finger-printing by holding the job on the edges. Rub back to produce an even cross-hatch surface, thus providing a good "key" for the paint.

Finally, if desired, apply an auto spray under-coat (or two, with a rub-down between coats), then a top-coat of appropriate colour. Obey paint maker's instructions. To avoid runs, position the job so that you are always spraying a horizontal surface; avoid the temptation to paint the whole job in one go. One of the metallic finishes such as "gun-metal black" (actually dark grey) is suggested, and will give the product a pleasing and durable finish (Photo 7).





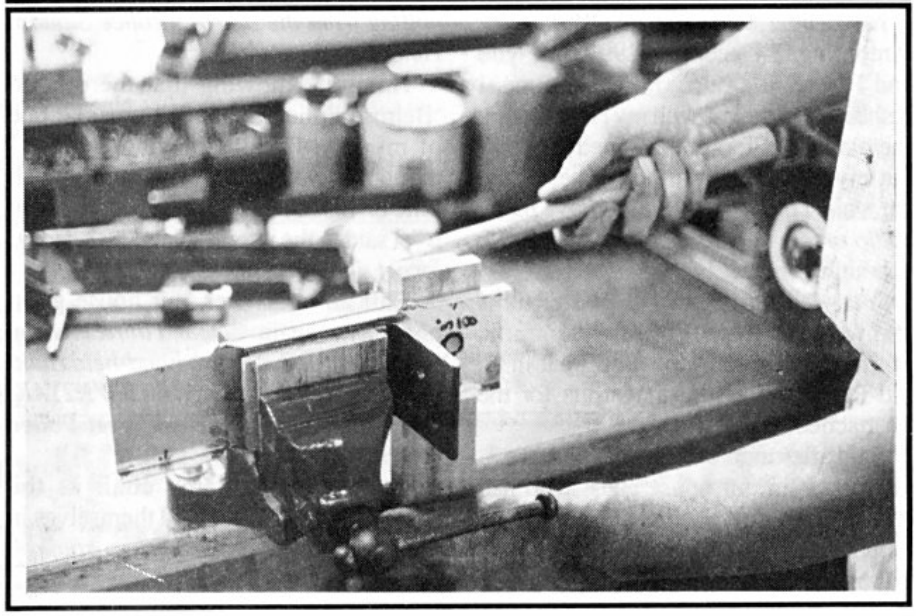


Photo 3 - Angle irons.
Photo 4 - "Super-vice" set-up.
Photo 5 - Bending in the vice.

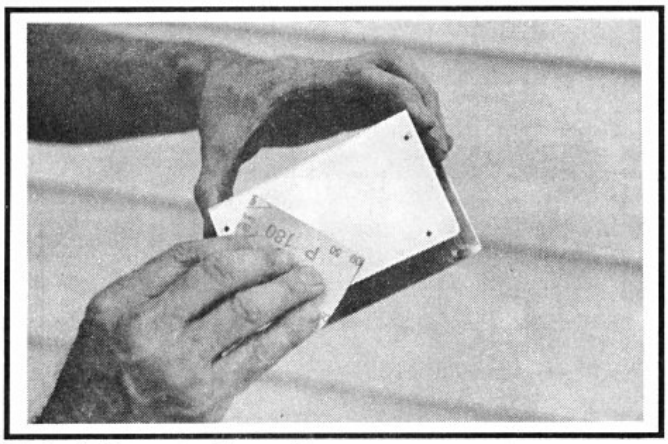


Photo 6 - Preparing the surface.

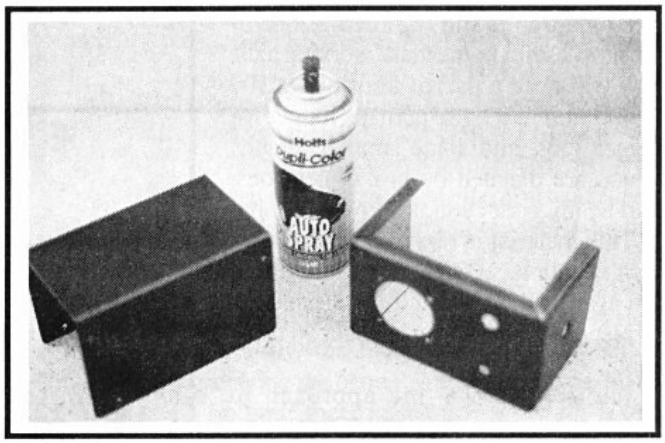


Photo 7 - Completed product.

References and Further Reading

1. Radio Communication Handbook; RSGB, 6th Edition, Ch 16 (excellent).

2. A Simple Sheet Metal Bender; D Diamond, # 44 Journal of Melbourne Society of Model and Experimental Engineers. (Metal fabricated bender made using lathe, drill-press and welder - copy of plans available free from the author - large SASE please!).

3. Try Building Your Own Equipment; G Diana N2JGU; QST March 1995.

4. Homebrewing Equipment from Parts to Metalwork; P Johnson W7KBE, Ham Radio (USA) March 1988.

ar

■ General

The Radio Came Back!

Dominic Bragge VK2YAK
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I have a little story to tell. On Wednesday morning, 3 December 1997, my wife and I were in a hurry to leave home. I rushed out to the car with my H/T in hand. Inevitably I'd forgotten something, so I put my H/T down on the bonnet of the car while I nipped into the garage. *"Black radio on a white bonnet - can't miss it"*, I thought.

Yes, well you guessed it. Two left turns and we were out in the peak hour traffic at full acceleration (not **that** great in an old Pulsar - but still dangerous for the unattached H/T!).

Mid afternoon I received a phone call at work from our house guest who had just received a perplexing phone call. *"A gentleman rang; he said he has some electronic equipment of yours and he's calling from the Belrose Police Station. He didn't leave a name."*

Hmmm! Knowing that there is no 'Belrose Police Station' it must be one of my HAM mates playing a joke (I thought it was VK2ETJ with too much time on his hands!). *"Don't worry about it"*, I said to the intermediary, *"it's a joke; forget about it"*.

Half an hour later, our house guest phoned me again. *"Dom, I think this guy is serious. He says it's a hand-held radio and it's got your call sign on it, VK2YAK. The radio is at Frenchs Forest Police station"*.

I nearly fell off my chair as the morning's events replayed themselves in my head. *"How could I be so stupid."* Well, sadly too easily.

I phoned the police and enquired about the state of the radio. The constable said, *"Well, it looks well used but I can't see any obvious damage. When I turn it on it shows 146.875 and a flickering 7.2/7.1."*

Thank God that was the last frequency I was listening to, not 468.4! *"Incredible!"* I exclaimed. *"I'll be right around."*

I picked up the H/T, made a few transmissions right there in the 'cop shop' and it seemed fine. The constable explained that a gentleman had seen it lying on the road (six lanes) and had braved the traffic to rescue what he thought was a mobile phone. He took it around to the police and together they had worked out that it was actually a transceiver.

While the policeman was taking down the serial number, thinking that this was going to be just another permanently lost gadget, the finder also realised that those little letters stuck on the front must be some identification! He phoned the Australian Communications Authority who identified the callsign - hence the confusing phone calls to my home QTH. All in all I was without the radio for only eight hours.

Thought for the day: Let's put our callsigns on our equipment!

ar

QSLs from the WIA Collection

Ken Matchett VK3TL
Honorary Curator WIA QSL Collection
4 Sunrise Hill Road, Montrose VIC 3765
Tel: 03 9728 5350

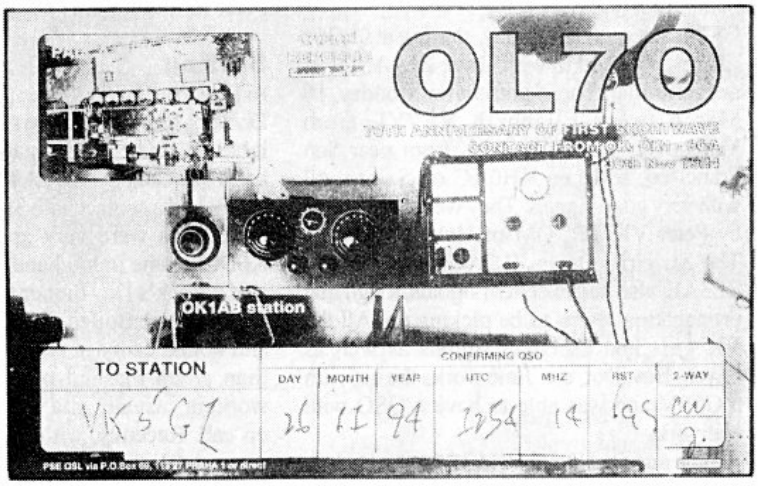
Old and New Czechoslovakian Call-Signs ec-1RO and OL70

The oldest pre-war Czechoslovakian QSL held by the WIA National Collection is ec-1RO, a particularly rare card sent from Praha (Prague) on 5 January 1928. The transmitter used was the popular Hartley oscillator, plate voltage being 500 V AC, or 400 V RAC operating on the 3.5 MHz band. The report was to an English station Eg-6dw. The receiver was the almost universal Reinartz, using one stage of audio amplification.

The QSL shown, OL7O from the Czech Republic, celebrated the first short-wave contact from Czechoslovakia on 30 November 1924. The uncommon OL prefix was selected by the Czech Republic authorities from the prefix block OKA - OMZ, but is not a unique allocation. In fact, the OL prefix has been used on numerous occasions to celebrate a particular event and is also used in the call-sign OLIHQ of the HQ station of the Czech Radio Club. It has also been used by Novice licensees.

In November 1924 amateur radio operators were not using the OK prefix. This was not officially sanctioned until January 1929. On 1 February 1927 a new system of amateur call signs called intermediates was introduced. The call-signs ec-1RO and Eg-6dw are examples of such intermediates, the first letter indicating the continent (in both these cases, Europe) and the second letter the identifying prefix. Thus ec stood for Czechoslovakia, and Eg for Great Britain. Incidentally, Australia was using at that time the prefix OA (O = Oceania, A = Australia) and the USA, NU (N = North America, U = USA).

The OL70 QSL shows two Czechoslovakian call-signs, OK1-OCA and OK1AB. For reasons given above these could not have been amateur stations. In the early 1920s the Bureau International de l'Union Telegraphique of Berne had allocated the prefix block OKA to OKZ to Czechoslovakia. At the same time the block VHA - VKZ was allotted to Australia. These allocations were promulgated through the Official Year Book of Wireless Telegraphy and Telephony 1923. Experimental radio stations (later to be known as amateur radio stations) had to wait several years before they received a similar call-sign allocation, the early OK prefix being confined to aeronautical, ship and (commercial) land stations.



Thanks

The Federal Body of the WIA would like to thank the friends and relatives of the following "Silent Keys" for their kind donation of QSL cards towards the collection: Hans Ruckert VK2AOU, courtesy of Stewart VK3ESD; Percy Sebire VK3MX, courtesy of Alan VK3AUC; and Bob Wilson, courtesy of Andy VK3SD. **ar**

Support the WIA in order to protect amateur radio frequencies

ALARA

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YL DX Net and Other News

(from June VK4SJ)

This net is on a Monday, starting at 05.30z on 14222 kHz with Dave ZL1AMN as net controller. Those present on Monday, 16 March, were Elizabeth VE7YL from Vancouver, Marcia N6DLL from near San Francisco, and Len KH0AC on Saipan, all with very good signals. They were later joined by Peter VK7PR, OM of Helene VK7HD. The ZL girls, Dawn ZL2AGX and Sharon ZL3AE, also had excellent signals, a sign that propagation seems to be picking up. All the VK girls had excellent signals as well as Gwen, Bev, Dot, etc. June works the net with a G5RV and was able to have a QSO with everyone.

June and OM Doug VK4BP have a Bichon Frize (it's a dog, but you knew that didn't you?) called Beau, much loved in spite of chewing up both of Doug's hearing aids one eventful day last year. If you are on e-mail, June can send you a coloured photograph of Beau (this 'super highway' thing is SO clever!).

More DX

(from Gwen VK3DYL)

Raija SM0HNV planned a trip to New Zealand for an organised run in the Bay of Plenty area. She hoped to meet up with Celia, Biny and others in the Auckland area before having a look round the South Island. Biny ZL2AZY and OM Merv have been holidaying in China.

YLs who used to be on the 222YL Net about 10 years ago will probably remember Annabel KX6AZ and AH9AD, who used to call in from various Pacific Islands. She is now in charge of public health on Belau (West Carolines) and will try to get back on the Net when she can.

Another YL frequently heard on 20 m nowadays is Mamtaz S21J. It is good to know of an active YL from Bangladesh. June "worked" her one night but it was hard going.

Iris Colvin W6QL became a Silent Key on 18 February last. Iris, with her late husband Lloyd, had operated from more than 100 rare DXCC countries over the years and had given thousands of amateurs a new "YL country".

Those interested in collecting YL countries should be looking for the two YLs participating in the Mongolian operation JT1Y from 7 to 14 April.

ALARA Web Page

Have you seen it yet? The latest address was *http://www.hotkey.net.au/~dbishop/alara* (disregard the address in last month's *Amateur Radio*). More changes are on the way so, if you are not successful, watch this space for updates. Be patient, gentle readers, it may not happen overnight, but it WILL happen. Thanks to Dot VK2DDB, and son Peter for putting this page together.

Surfing

(with Dot VK2DDB)

Dot has found *http://www.klever.net.au* and it has an amateur radio page. She is going to see if she can put some Australian stuff on it.

Dot had a contact with Sharron ZL3AE and conditions were very good. Also Marcia K6DLL came in loud and clear. She cooked a St Patrick's Day dinner for her family over the weekend. Boiled mutton, boiled potatoes and boiled cabbage (sounds more authentic than green mashed potato).Dot has been working casually at a long day care centre, on call. Recently, with a tummy bug going around, she was called frequently when teachers were away. Then Dot caught the bug too. She ended up three kilos lighter, but does not recommend it as a way to lose weight.

Lighthouse/Lightship Activity Weekend 1998

(from Dot VK2DDB)

A long list of stations have indicated they will be joining the Lighthouse/Lightship Activity Weekend from 0001 UTC on Saturday, 22 August until 2359 UTC on Sunday, 23 August 1998.

Listen for a lighthouse operating from Svaldbard for the YL meeting. If you are thinking of going there, but worrying about being too cold, the days are in the mid 30s, nights are 10-12 (however, is that degrees C or F?). Gwen will be there (with fur boots on).

1999 YLRL Convention

(from Martha Barron KA6TYO)

The YLRL Convention will be held on 30 and 31 July 1999 on the Queen Mary in Long Beach, Southern California. The Meet is hosted by the Ladies Amateur Radio Association of Orange County, assisted by the YL Radio Club of Los Angeles.

The luxurious ocean liner, Queen Mary, is now a hotel with 365 staterooms and all the latest amenities. There is much to see on board including guided tours of the ship, historic videos, a gallery of art deco treasures and an array of colourful shops and restaurants. You can operate W6RO from the historic wireless room and museum, so bring your licence. A free bus is available to take you shopping, to restaurants and to visit the new Aquarium.

Costs are comparable with staying on shore: $79 to $104 (think these are US dollars) single or double plus 12% occupancy tax. $15 adds a rollaway bed for a third person. If more than three wish to share, a suite is over $300, so two rooms would be a better deal. Attendees are responsible for booking rooms with payment direct to the Queen Mary. When booking, be sure to tell them you are with the YLRL Convention to get these rates which are available two days before and after, ie 28 July to 2 August.

OMs and friends are welcome, and side trips will be planned as required. Start planning now.

ar

Could I Have a Taxi from Broadway, Sydney, Australia to Brooklyn New York?

This might seem like a very strange request, but for some time now New York City taxis have been known to frequent the 10 metre band in the course of their business. However, we are pleased to report that due to the hard work of the FCC along with the NYC taxi industry, and Limousine Commission, the problem is going away.

Our correspondent tells us that taxis are being inspected at their inspection facility and the guilty drivers have been warned in person plus receiving a follow-up letter which says any recurrence would result in a possible fine of $US5,000.

Is that the end of the matter? No, as a criminal investigation is now underway to find the source of the modifiers of the radios.

The final advice given amateur radio operators is 'use the band' and if you find a CBer or illegal user on your frequencies, call CQ and hold a QSO.

(Thanks to Richard Murnane VK2SKY for passing on that item to WIA News.) **ar**

AWARDS

John Kelleher VK3DP
Federal Awards Officer
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Tel: 03 9889 8393

Australian DXCC Countries List

I have compiled and updated this WIA Australian DXCC Countries List which is effective as from 31 March 1998. In response to a number of requests, I have marked all those countries which have an active QSL Bureau with a Q.

Q indicates an active QSL Bureau

Prefix		Country
1A0		Sov Mil Order of Malta
1S 9M0		Spratly Islands
3A	Q	Monaco
3B6/7	Q	Agalega & St Brandon
3B8	Q	Mauritius
3B9		Rodriguez Island
3C		Equatorial Guinea
3C0		Pagalu Island
3D2	Q	Fiji
3D2		Conway Reef
3D2		Rotuma Island
3DA	Q	Swaziland
3V		Tunisia
3W/XV		Vietnam
3X		Guinea
3Y		Bouvet Island
3Y		Peter 1 Island
4J/K		Azerbaijan
4L		Georgia
4P-S	Q	Sri Lanka
4U1ITU	Q	ITU Geneva
4U1UN	Q	HQ United Nations
4X-Z	Q	Israel
5A		Libya
5B-P3	Q	Cyprus
5H-I	Q	Tanzania
5N-O	Q	Nigeria
5R-S		Madagascar
5T		Mauritania
5U		Niger
5V		Togo
5W	Q	Western Samoa
5X	Q	Uganda
5Y-Z	Q	Kenya
6V-W	Q	Senegal
6Y	Q	Jamaica
7O		Yemen
7P	Q	Lesotho
7Q		Malawi
7T-Y	Q	Algeria
8P	Q	Barbados
8Q		Maldives
8R	Q	Guyana
9A	Q	Croatia
9G	Q	Ghana
9H	Q	Malta
9I-J	Q	Zambia
9K	Q	Kuwait
9L	Q	Sierra Leone
9M2-4	Q	West Malaysia
9M6-8		East Malaysia
9N		Nepal
9Q-T		Zaire
9U		Burundi
9V	Q	Singapore
9X		Rwanda
9Y-Z	Q	Trinidad & Tobago
A2-8O	Q	Botswana
A3	Q	Tonga
A4	Q	Oman
A5		Bhutan
A6		United Arab Emirates
A7	Q	Qatar
A9	Q	Bahrain
AP-S	Q	Pakistan
BS		Scarborough Reef
BV	Q	Taiwan
BV9		Pratas Island
BA-Z	Q	China
C2		Nauru
C3	Q	Andorra
C5	Q	The Gambia
C6	Q	Bahamas
C8-9	Q	Mozambique
CA-E		
XQ-R	Q	Chile
CE9/KC4		Antarctica
CE0		Easter Island
CE0		Juan Fernandez Isl
CE0		San Felix Isl
CM-O T4	Q	Cuba
CN	Q	Morocco
CP	Q	Bolivia
CQ-U	Q	Portugal
CT3		Madeira Isl
CU		Azores Isls
CV-X	Q	Uruguay
CY9		St Paul Isl
CY0		Sable Island
D2-3		Angola
D4		Cape Verde Isl
D6		The Comoros
DA-R	Q	Germany
DU-Z		
4D-I	Q	Philippines
E3		Eritrea
EA-AM-O	Q	Spain
EA6-EH6		Balearic Isl
EA8-EH8		Canary Isls
EA9-EH9		Ceuta & Melilla
EI-J	Q	Ireland
EK		Armenia
EL 5L-M	Q	Liberia
EP-Q		Iran
ER	Q	Moldova
ES	Q	Estonia
ET	Q	Ethiopia
EU-W	Q	Belarus
EX	Q	Kirghizstan
EY	Q	Tajikistan
EZ	Q	Turkmenistan
F HW-Y		
TK-TR	Q	France
FG		Guadeloupe
FJ/FS		St Martin
FH		Mayotte
FK	Q	New Caledonia
FM		Martinique
FO		Fr Polynesia
FO0		Clipperton Isl
FP		St Pierre & Miquelon
FR		Reunion Isl
FR/G		Glorioso Isl
FR/J E		Juan de Nova, Europa
FR/T		Tromelin Isl
FT8W		Crozet Isl
FT8X		Kerguelen Isl
FT8Z		Amsterdam & St Paul Isl
FW		Wallis & Futuna Isl
FY		French Guiana
G-GX		
2A-2Z	Q	England
GD-GT	Q	Isle of Man
GI-GN	Q	North Ireland
GJ-GH	Q	Jersey
GM-GS	Q	Scotland
GU-GP	Q	Guernsey
GW-GC	Q	Wales
H4	Q	Solomon Isls
H40		Tuamotu Isl
HA-HG	Q	Hungary
HB-HE	Q	Switzerland
HB0	Q	Liechtenstein
HC-HD	Q	Ecuador
HC-HD8		Galapagos Isls
HH 4V	Q	Haiti
HI	Q	Dominican Republic
HJ-K 5J-K	Q	Columbia
HK0		Malpelo Isl
HK0		San Andres Isl
HL D5	Q	Sth Korea
HO-P	Q	Panama
HQ-R	Q	Honduras
HS E2	Q	Thailand
HV		The Vatican
HZ		Saudi Arabia
I IT	Q	Italy
IM-IS		Sardinia
J2	Q	Djibouti
J3	Q	Grenada
J5		Guinea-Bissau
J6		St Lucia
J7	Q	Dominica
J8		St Vincent

JA-S 7J-N		
8J-8N	Q	Japan
JD1 7J1		Minami Toroshima
JD1 7J1		Ogasawara Isl
JT-V	Q	Mongolia
JW		Svalbard
JX		Jan Mayen
JY	Q	Jordan
K-W-N-A	Q	United States of America
KC6		Belau
KG4	Q	Guantanamo Bay
KH1		Baker, Howland Isls
KH2	Q	Guam
KH3	Q	Johnston Isl
KH4	Q	Midway Isl
KH5		Palmyra, Jarvis Isls
KH5K		Kingman Reef
KH6/7	Q	Hawaiian Isls
KH7		Kure Isl
KH8		American Samoa
KH9		Wake Isl
KH0		Marianas Isls
KL7	Q	Alaska
KP1		Navassa Isl
KP2	Q	Virgin Isls
KP3-4	Q	Puerto Rico
KP5		Desecheo Isl
LA-LN	Q	Norway
LO-LW		
AY-Z L2-9	Q	Argentina
LX	Q	Luxembourg
LY	Q	Lithuania
LZ	Q	Bulgaria
OA-OC 4T	Q	Peru
OD	Q	Lebanon
OE	Q	Austria
OF-OI	Q	Finland
OH0		Aland Isl
OJ0		Market Reef
OK-OL	Q	Czech Republic
OM	Q	Slovak Republic
ON-OT	Q	Belgium
OX XP		Greenland
OY	Q	Faroe Isls
OU-OZ	Q	Denmark
P2	Q	Papua-New Guinea
P4	Q	Aruba
P5		North Korea
PA-PI	Q	Netherlands
PJ2,4,9	Q	Netherlands Antilles
PJ5-8		Curacao, Saba, St Eustatius
PP-Y ZV-Z	Q	Brazil
PY0		Fernando de Noronha
PY0		St Peter & Paul Rocks
PY0		Trinidade & Martin Vaz
PZ	Q	Suriname
R UA-I	Q	Russia
R1FJ		Franz Josef Isl
R1MV		Malyj Vysotskij Isl
S2-3	Q	Bangladesh
S5	Q	Slovenia
S7		Seychelles
S9		Sao Thome & Principe
S0		West'n Sahara
SA-SM	Q	Sweden
SN-SR HF		
3Z	Q	Poland
ST 6T-U	Q	Sudan
SU	Q	Egypt
SV-Z J4	Q	Greece
SV5		Dodecanese
SV9		Crete
SV/A		Mt Athos
T2		Tuvalu Is
T30		Kiribati (West)
T31		Kiribati (Central)
T32		Kiribati (East)
T33		Banaba Isl
T5 6O		Somalia
T7	Q	San Marino
T9	Q	Bosnia & Herzegovina
TA-C YM	Q	Turkey
TF	Q	Iceland
TG-TD	Q	Guatemala
TI-TE	Q	Costa Rica
TI9		Cocos Isl
TJ		Cameroon
TK		Corsica
TL		Central Afr Republic
TN		Congo
TR	Q	Gabon
TT		Chad
TU	Q	Ivory Coast
TY		Benin
TZ	Q	Mali
UA2F		Kaliningrad
UA9-0		Asiatic Russia
UJ-UM	Q	Uzbekistan
UN-UQ	Q	Kazakhstan
UR-Z EM-O	Q	Ukraine
V2	Q	Antigua & Barbuda
V3	Q	Belize
V4		St Kitts & Nevis
V5	Q	Namibia
V6		Micronesia
V7	Q	Marshall Isls
V8	Q	Brunei
VA-G VO		
VX-Y CF-K		
CY-Z XJ-O	Q	Canada
VK	Q	Australia
VK0		Heard Isl
VK0		Macquarie Isl
VK9C		Cocos-Keeling Isl
VK9L		Lord Howe Isl
VK9M		Mellish Reef
VK9N		Norfolk Isl
VK9W		Willis Isl
VK9X		Christmas Isl
VP2E	Q	Anguilla
VP2M	Q	Montserrat
VP2V	Q	Brit Virgin Isls
VP5	Q	Turks & Caicos Isls
VP8	Q	Falkland Isls
VP8 LU		South Georgia Isl
VP8 LU		South Orkney Isl
VP8 LU		South Sandwich Isl
VP8 LU 4K1		South Shetland Isl
VP9	Q	Bermuda
VQ9	Q	Chagos Isl
VR6		Pitcairn Isl
VS6/VR2-9	Q	Hong Kong
VT-VW	Q	India
VU4		Andaman Isl
VU7		Laccadive Isl
XA-I 4A-C		
6D-6J	Q	Mexico
XA-XI4		Revilla Gigedo
XT	Q	Birkina Fasso
XU		Kampuchea
XW		Laos
XX9		Macao
XY-Z		Myanmar
YA		Afghanistan
YB-H 8A-I	Q	Indonesia
YI HN	Q	Iraq
YJ	Q	Vanuatu
YK 6C	Q	Syria
YL	Q	Latvia
YN HT	Q	Nicaragua
YO-R	Q	Romania
YS	Q	El Salvador
YT-Z 4N-O	Q	Yugoslavia
YV-YY	Q	Venezuela
YV0		Aves Island
Z2		Zimbabwe
Z3 4N5	Q	Macedonia
ZA	Q	Albania
ZB2	Q	Gibraltar
ZC4	Q	UK bases on Cyprus
ZD7		St Helena Isl
ZD8	Q	Ascension Isl
ZD9		Tristan da Cunha
ZF	Q	Cayman Isls
ZK1		North Cook Isls
ZK1		South Cook Isls
ZK2		Niue Isl
ZK3		Tokelau Isl
ZL-M	Q	New Zealand
ZL7		Chatham Island
ZL8		Kermadec Isl
ZL9		Auckland & Campbell Isls
ZP	Q	Paraguay
ZR-ZU	Q	South Africa
ZR2-ZU8		Prince Edward & Marion Isls

ar

Contests

Peter Nesbit VK3APN
Federal Contests Co-ordinator
PO Box 2175, Caulfield Junction VIC 3161
E-mail: pnesbit@melbpc.org.au

A Welcome to Our New Federal Contest Co-ordinator

After six very enjoyable years as FCC, I feel it is time to hand over to someone else. I would like to welcome Ian VK3DID to the position. Ian will be taking over this column and all associated duties from next month. My thanks to all those who have helped over the years by managing our contests, and those who have sent information for this column, or written just to say hello. There are still a few loose ends to be tied up, so for those who are waiting for something from me, please be patient as it will be attended to over the coming weeks.

For information and assistance this month, many thanks to VK2BQS, VK2SRM, VK3DID, VK3KWA, LZ1BJ, OE4BKU, *ARRL, JARL, RSGB,* and *Antenna Electronica* magazine. See you on air!

73, Peter VK3APN

Contest Calendar May - July 98

May 2/3	ARI DX Contest (CW/SSB/RTTY)	(Apr 98)
May 9/10	CQ-M DX Contest (CW/Phone/Mixed)	(Apr 98)
May 16/17	Sangster Shield Contest (CW)	(Apr 98)
May 30/31	CQ WPX Contest (CW)	(Feb 98)
Jun 6/7	IARU Region 1 Field Day (CW)	
Jun 7	Portugal Day Contest (SSB)	
Jun 13	QRP Day Contest (CW)	
Jun 13	Asia-Pacific Sprint (SSB)	(Jan 98)
Jun 13/14	ANARTS RTTY Contest	
Jun 13/14	Top of Europe Grid Contest (SSB)	
Jun 13/14	South America WW Contest (CW)	
Jun 20/21	VK Novice Contest	
Jun 20/21	All Asia DX Contest (CW)	
Jun 27/28	ARRL Field Day	
Jul 1	Canada Day CW/Phone	
Jul 4	Australasian CW Sprint (80 m)	
Jul 4	Jack Files Memorial Contest (CW)	
Jul 4	NZART Memorial Contest	
Jul 11	Australasian Phone Sprint (80 m)	
Jul 11/12	IARU HF Championship	
Jul 18	South Pacific 160 m Contest	
Jul 18	Colombian DX Contest (Phone/CW)	
Jul 25/26	RSGB IOTA Contest	

IARU Region 1 Field Day

1500z Sat to 1500z Sun 6/7 June

Expect plenty of European activity in this CW contest, which is a collection of regional field days. The rules depend on the sponsoring society but, in general, you send RST + serial, and score four points per QSO with each portable European station. The multiplier is the number of European countries worked. Logs can go to: RSGB (G3UFY), 77 Bensham Manor Road, Thornton Heath, Surrey CR7 7AF, England, postmarked within 30 days of the contest.

Portugal Day Contest (SSB)

0700-2400z, Sunday 7 June

This contest takes place on the first Sunday in June each year. Use 80-10 m, SSB only. Send RS + serial number. CT stations will send RS + district code. Score two points per QSO with CT1-4 or EA1-5 & 7, one point per QSO with other countries, and zero for own country. Multipliers are the number of CT districts, plus DXCC countries, plus number of continents worked irrespective of band. Districts are AV, BG, BJ, BR, CB, CO, EV, FR, GD, LR, LX, PG, PT, SR, ST, VC, VR, and VS. Send logs to: REP Contest Manager/DP91, Apartado 2483, 1112 Lisboa, Codex, Portugal by 30 June.

1997 QRP Day Contest

Saturday 13 June, 0600-1200z

Sponsored by the CW Operators' QRP Club, the object is to work as many local and overseas stations as possible. Stations from any country may enter, and contacts with any country count for scoring purposes. Sections are (i) VK, ZL, P2, and (ii) outside these call areas.

Use CW in the normally recognised CW sections of 160-10 m (no WARC bands). The recognised QRP calling frequencies are: 1815, 3530, 7030, 14060, 21060, and 28060 (then QSY to a working frequency). Exchange RST + serial number starting at 001. Repeat QSOs are allowed between the same stations, on the same band, with at least two hours between subsequent QSOs.

QRP stations must not exceed five watts carrier power to the antenna, and should add /QRP after their callsign.

Stations within VK/ZL/P2 score one point per VK/ZL/P2 QSO, and three points per QSO outside this area. Stations outside VK/ZL/P2 score three points per VK/ZL/P2 QSO, and one point per QSO outside this area. All contacts made with a homebrew transmitter or transceiver score double points.

The final score is the sum of the total QSO points. Apart from the use of homebrew equipment (see above), no multipliers apply. Include full details of the equipment used, and send your logs to: Ron Everingham VK4EV, 30 Hunter Street, Everton Park, Queensland 4053 by the second Saturday of July (1998 = 11th).

Certificates will be awarded to the first three place-getters in each section, and the top scorer on each band, if the entrant is not already a place-getter. Those interested in joining the CW Operators' QRP Club should write to: Kevin Zietz VK5AKZ, 41 Tobruk Ave, St Mary's, SA 5042.

ANARTS WW DX RTTY Contest

0000z Sat to 2400z Sun, 13/14 June

This contest is organised by the Australian National Amateur Radio Teleprinter Society,

Have you advised your WIA Membership Secretary of your new callsign?

Use the form on the reverse of the *Amateur Radio* address flysheet.

YOUR ONE STOP COMMUNICATION SHOP

FT-50RD 2m/70cm Handheld

The Yaesu FT-50RD is an amazingly compact 2m/70cm Amateur band handheld transceiver which provides MIL-STD 810 shock and vibration resistance, super wideband receiver coverage, simple menu settings for most functions, and compatibility with the optional Yaesu ADMS-1D software/interface package for PC programming of many functions.

Other features include:

- Tx 144-148MHz, 430 - 450MHz
- Rx 76-200, 300 - 540, 590 - 999MHz (cellular blocked)
- New FTT-12 keypad provides Digital Voice Recording, DTMF paging, CTCSS/DCS scanning, and CTCSS encode/decode
- 2m/70cm RF output: 2.5, 1.0, 0.1W standard, up to 5W with 9.6V battery or adaptor
- "Omni-glow" LCD screen for easier night-time viewing
- 112 memory channels with 4 character alpha-numeric naming
- High speed scanning, 12V DC socket, Digital Code Squelch
- Dual watch allows monitoring of sub-band activity
- Direct FM modulation for better audio quality
- 5 battery saving systems (includes Rx and Tx Save, and Auto Off)
- Rear panel clamshell battery pack
- Comes with FNB-40 slimline 6V 650mA/H Nicad battery pack, flexible 2m/70cm antenna and modified M-9626 AC plugpack adaptor for Nicad charging

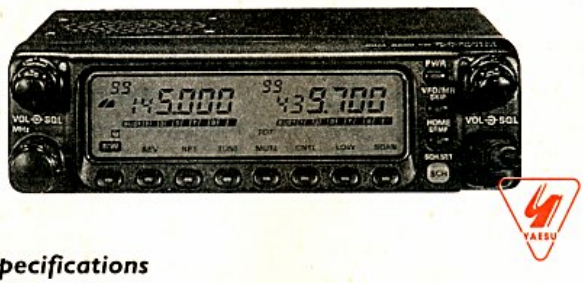
D 3660 **2 YEAR WARRANTY** **$569**

FT-8100R 2m/70cm Mobile

The stunning Yaesu FT-8100R is a state of the art 2m/70cm band mobile transceiver that combines high power and the industry's most versatile memory system with an excellent wideband receiver and solid construction.

It's MIL-STD-810 shock and vibration rating is your assurance of years of reliable operation. Other features include:

- Rear panel socket for 1200 and 9600 baud packet operation
- 3 selectable power output levels per band
- Inbuilt antenna duplexer for immediate dualband antenna use
- 198 memory channels for storage of your favourite frequencies, plus 4 "band limit" memories per band
- Dual receive capability - VHF/UHF, VHF/VHF,UHF/UHF
- Huge "Omni-glow" backlit screen showing frequency, memory and function activity
- Enhanced "Smart Search" for auto searching and loading of active frequencies into 51 special memories per band
- Inbuilt crossband repeater facility
- CTCSS encoder for repeater access where sub-audible tones are required
- Wide range of tuning steps with different settings for each band
- With handheld microphone, mounting bracket and fused DC power cord.



D 3314 **2 YEAR WARRANTY** **$899**

Specifications

Frequency coverage: Transmit: 144 to 148MHz, 430 to 450MHz
Receive: 110 to 550MHz, 750 to 1330MHz*
*(800MHz cellular locked out)

Transmit power: 2m - 50, 20 and 5W;
70cm - 35, 20 and 5W

Size: 140 x 40 x 152mm without knobs

Supplied accessories

MH-42B6J handheld microphone
MMB-36 mobile mounting bracket
Fused DC power cord

Optional accessories

D 3313 YSK-8100 Separation Kit $99.95

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B 3332

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Advanced Data Management Software

An advanced way to program many of the functions on Yaesu handheld and mobile transceivers. Each package consists of an interface that plugs into the serial port of a PC and connects to the transceiver via its microphone socket (for hand-helds) or its Packet socket (for mobiles). Also provides easy-to-use 3.5" PC software with pull down menus that allow for programming and naming of memory channels, selection of output power, CTCSS tones, scan and battery saver operation, plus much more.

ADMS-1D suits FT-10,11R, 50R/RD, 51R, VX-1R D-3753

ADMS-2D suits FT-3000M, 8000R, 8500, 8100R D-3759

$79.95 ea

2m 30W RF Power Amplifier

Ideal for use at home or in the car. It works with inputs from 0.5 to 5W, and produces up to 30W output with just 3W input. A switchable 12dB gain low noise GaAs FET receiver pre-amp is included for use in quiet RF areas. The amplifier includes a large heatsink, fused DC power lead, SO-239 input/output connectors, and simple LED metering for DC supply voltage and relative RF output power. Frequency range 144-148MHz FM only. Requires 13.8V DC at 6A max. Size: 125 x 48 x 147mm (WHD) including protrusions.

D 2515

$99.95

250-Watt Dummy Load

Ideal for testing high power transceivers and amplifiers, the Revex L250N 50 ohm dummy load is rated at 250W (50% duty cycle) and 1kW peak power. Its internal construction and low-loss N-type socket allow use over the DC-500MHz range with very low SWR. Includes desk stands for more efficient convection cooling. Made in Japan. D 7028

$199

3-15V 25 Heavy Duty Power Supply

This solidly built power supply provides up to 25 amps ICAS at 15V, 20 amps continuous at 13.8V and lower current at lower voltages. It has front panel metering, plus high current banana-style and low-current output connections. An internal heatsink and thermally-switched fan provides cooling without protrusions in the metal case. Specially modified for reliable long-term operation, it uses a rugged 50 amp bridge rectifier & trifilar transformer. Also provided is extensive overload protection through dissipation limiting circuitry for the pass transistors, a 30 Amp instantaneous current limit, AC mains circuit breaker, a transformer thermal fuse and fused auxiliary secondary winding.

D 3800

GREAT VALUE! **$299**

Yaesu FT-900 Deluxe HF Mobile

The Yaesu FT-900 is a truly practical 100W HF mobile transceiver that does not compromise performance when used in base station installations. For convenient mobile operation, a lightweight front sub-panel with access to commonly used controls can be mounted away from the transceiver's body using an optional kit. The large "Omni-Glow" backlit LCD screen provides high visibility over wide viewing angles, while the voice and data between the sub-panel and the transceiver are digital to prevent RF feedback or noise pick-up problems. A tough diecast top panel/heatsink and duct-flow cooling system allows extended transmission periods while still allowing the optional ATU-2 auto antenna tuner to be mounted inside the transceiver.

D 3280 **2 YEAR WARRANTY**

$1895

BONUS

Half priced ATU-2 auto antenna tuner when purchased with your FT-900

SAVE $249

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B 3332

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and runs on the second full weekend of June each year. The object is to contact as many stations locally and overseas as possible on 80/40/20/15/10 m, using any digital mode (RTTY, AMTOR, FEC, PKT, PACTOR, etc - no satellite).

Categories are single operator, multi-operator single transmitter, and SWL. Max operating time for single operators only is 30 hours. Rest periods can be taken at any time during the contest. Mark rest periods in log.

Messages comprise RST, UTC time, and CQ Zone. For each valid QSO, points are claimed according to zone. Space precludes publishing a complete points table, however the following extracts show the points claimable by entrants in zones 28, 29, and 30.

The numbers show the number of points for QSOs with zones 1 to 40, working left to right, top to bottom (ie the first number shows the points per QSO with zone 1, 2nd with zone 2, etc):

Your Zone = 28

31 40 40 44 45 49 53 51 55 54
49 48 46 32 30 26 22 20 20 25
20 11 14 10 15 05 07 02 10 17
31 24 34 25 36 30 22 26 19 34

Your Zone = 29

39 50 43 52 54 47 49 54 52 44
42 37 37 42 39 36 32 30 30 34
28 21 24 20 23 16 15 10 02 09
15 32 42 33 39 31 24 24 20 44

Your Zone = 30

35 50 35 44 46 38 40 44 45 37
41 33 34 49 47 42 38 35 32 43
37 29 30 24 30 22 18 17 09 02
24 07 51 42 47 40 33 32 29 48

Countries are as per the ARRL DXCC list, except that each call area in mainland VK (1-8), VE, JA and W counts as a separate country. Mainland VK, VE, JA and W are not claimable. Call areas **outside** these mainland areas (eg VK0, JD1, KL7, KC4) count as separate countries. One's own multiplier (country or call area) can be worked for QSO points, but not for a multiplier.

Points are determined for each band, using the relevant points table, and then added. ***Note: QSOs with VK2SG earn double points.*** Countries are similarly tallied. Continents are those worked irrespective of the band.

Total score is: points x countries x continents. Non-VKs should add a "VK Bonus" to their points tally, which is 500 points for each VK worked on 80 m, 400 points on 40 m, 100 points on 20 m, 200 points on 15 m, and 300 points on 10 m.

Use a separate log for each band. Logs must show: date, time, callsign of station worked/ heard, messages sent and received, and points.

The summary sheet must show: callsign, name and address, bands used, the points claimed for each band, the number of countries worked on each band, the number of continents worked, VK Bonus calculations for world stations, calculations, and declaration.

Multi-op entries must show the signatures and callsigns of each operator, and single-op entries must show a summary of operating times. Please include a dupe sheet for any band log over 75 QSOs.

Send log and summary sheet to: ANARTS Contest Manager, PO Box 93, Toongabbie, NSW 2146 by 1 September of the year of the contest. If required, a full page scoring table (last revised 1994), and log and summary sheets are available from ANARTS or myself upon receipt of a SASE.

Plaques and certificates will be awarded to the winners.

Top Of Europe (TOEC) WW Grid Contest

1200z Sat to 1200z Sun, 13/14 June

This contest is confirmed for 1998, but no further details are to hand.

WIA MORSE PRACTICE TRANSMISSIONS

VK2BWI	Nightly at 2000 local on 3550 kHz
VK2RCW	Continuous on 3699 kHz and 144.950 MHz 5 wpm, 8 wpm, 12 wpm
VK3COD	Nightly (weekdays) at 1030 UTC on 28.340 MHz and 147.425 MHz
VK3RCW	Continuous on 145.650 MHz, 5 wpm, 10 wpm
VK4WIT	Monday at 0930 UTC on 3535 kHz
VK4WCH	Wednesday at 1000 UTC on 3535 kHz
VK4AV	Thursday at 0930 UTC on 3535 kHz
VK4WIS	Sunday at 0930 UTC on 3535 kHz
VK5AWI	Nightly at 2030 local on 3550 kHz
VK5VF	Continuous on 145.650 MHz, 5 wpm to 12 wpm
VK6RCW	Continuous on 147.375 MHz, 3 wpm to 12 wpm

South American World Wide CW

1200z Sat to 1800z Sun, 13/14 June

This contest is sponsored by the Brazilian magazine *Antenna Electronica Popular*, and occurs on each second full weekend in June. The objective is to work as many South American amateurs as possible, plus other areas. Bands are 80-10 m, and categories are: single operator, single and all band; multi-operator, single and all band; and QRP all band (max 10 W IP). Exchange RST and continent (Oceania = OC). QRP stations add /QRP.

Claim 10 points for each QSO with a South American station (WAC boundaries), and two points for all others. Multipliers are the total number of South American prefixes worked. Calculate the band score (band points x band multiplier), and add the band scores together to get the final score. Use separate logs for each band, and send to: WWSA Contest, PO Box 282, ZIP 20001-970 Rio de Janeiro, RJ - Brazil, to arrive by 30 October. A number of special prefixes will be activated during the contest, and various awards are offered.

1998 WIA VK Novice Contest

0800z Sat to 0800z Sun, 20/21 June

Presented by Ray Milliken, VK2SRM

The object of this contest is to encourage amateur operation in VK, ZL and P2, and to promote contacts with Novice and club stations. Only stations in VK, ZL and P2 are eligible to participate. Stations in the same call area may contact each other for contest credit.

All operation must be confined to the Novice frequency allocations in the 10, 15 and 80 m bands, viz 3.525-3.625 MHz, 21.125-21.300 MHz and 28.100-28.600 MHz. No cross-band operation is permitted.

Sections include (a) Phone (Novice/Full call); (b) CW (Novice/Full call); (c) SWL. Except for club stations, no multi-operator operation is allowed.

Phone stations should call "CQ Novice Contest", and CW stations "CQ N". Club stations should call "CQ Novice Contest, Club Station", followed by the callsign. Exchange a serial number comprising RS (or RST) followed by three figures commencing at 001 for the first contact, and increasing by one for each subsequent contact.

All operators must, after making five consecutive contacts on the one frequency, change frequency by at least 5 kHz for phone and 2 kHz for CW (stations using crystal controlled transmitters are exempt from this rule). This rule is restricted to the 80 m band, and for the first six hours of the contest.

Stations may be contacted twice per band, providing at least 12 hours has passed since the previous contact with that station.

SWLs may log up to ten sequential contacts made by a station, and must then log at least five other stations before logging the previous station again. The five stations so logged need a minimum of one contact only logged.

Score five points for contacts with Novice or Combined call stations, ten points for contacts with club stations, and two points for contacts with Full call stations. SWLs score five points for Novice to Novice contacts, two points for Novice to Full call or Full call to Full call contacts, and ten points for contacts made by a radio club.

Logs must show: Date/time UTC, Band, Mode, Station contacted, Report and serial number sent, Report and serial number received, Points. Each log sheet must be headed "VK Novice Contest 1997". The total claimed score for each page must be shown on the bottom of the page.

Logs must be accompanied by a summary sheet showing: callsign, name, mailing address, section entered, number of valid contacts, and claimed score. The summary sheet must include the following declaration: *"I hereby certify that this station was operated in accordance with the rules and spirit of the contest"*. The sheet must be signed and dated by the operator or, in the case of a club station, by a responsible officer of the committee, or a licensed operator delegated by the committee to do so.

Entrants may submit only one contest log per mode. Logs for entries where an entrant uses more than one callsign whilst operating in the contest will not be accepted. Send entries to: Novice Contest Manager, Westlakes ARC, Box 1, Teralba, NSW 2284, to arrive by Friday, 17 July 1998.

The Keith Howard VK2AKX Trophy will be awarded to the Novice entrant with the highest phone score, and the Clive Burns Memorial Trophy to the Novice entrant with the highest CW score (these are perpetual trophies on permanent display at the Executive Office).

In each case, the annual winner will receive a suitably inscribed wall plaque as permanent recognition. Certificates will also be awarded to the top scoring Novice station in each call area, the top scoring station in each section, and to any other entrant where meritorious operation has been carried out. Awards are at the discretion of the contest manager. A Certificate of Participation will be awarded to all operators who submit a log in the contest.

Manager's note: I would like to thank all those who have supported this contest over the last six years that I have been manager. A new manager will be appointed by the Westlakes ARC to receive the logs for this year.

All Asian DX Contest

CW: 0000z Sat to 2400z Sun, 20/21 June
Phone: 0000z Sat to 2400z Sun, 5/6 September

The object is to contact as many stations in Asia as possible, on 160-10 m (no WARC bands). Classes are single operator, single and multi-band; and multi-operator multi-band. Call "CQ AA" or "CQ Asia". Exchange RS(T) plus two figures denoting your age (YLs send "00"). For each QSO score three points on 160 m, two points on 80 m, and one point on other bands. The multiplier is the number of different Asian *prefixes* worked per band, according to CQ WPX rules. Example: JS9ABC/7 counts for prefix JS7. Note that JD1 stations on Ogasawara (Bonin and Volcano) Isl belong to Asia, and JD1 stations on Minamitori Shima (Marcus) Isl belong to Oceania. Final score is total QSO points x total multiplier.

Use standard log and summary sheet format, clearly showing new multipliers when first worked. Send logs postmarked by 30 July (CW) and 30 September (SSB) to: JARL, AA DX Contest, Box 377, Tokyo Central, Japan. Indicate phone or CW on envelope. Awards include certificates to the top one to five stations in each country on each band (depending on activity), and medals to the continental leaders. For full results please enclose an IRC and SAE with log.

This year's winner is again Adrian Pollock VK2FZ/4 . . .

Asian countries are: A4, A5, A6, A7, A9, AP, BV, BY, CR9, EP, HL/HM, HS, HZ/7Z, JA-JS, JD1 (Ogasawara), JT, JY, OD, S2, TA, U/R (CIS), VR2/VS6, VU, VU4, VU7, XU, XV/3W, XW, XZ, YA, YI, YK, ZC4/5B4, 1S, 4S, 4X/4Z, 7O, 8Q, 9K, 9M2, 9N, and 9V.

ARRL Field Day

1800z Sat to 2100z Sun, 27/28 June

As with the RSGB Field Day, overseas stations can participate and submit a log, but otherwise are ineligible to compete. Exchange RS(T)+QTH; W/VE will send operating class + ARRL/CRRL section. Send log postmarked by 24 July to: ARRL Field Day Contest, 225 Main St., Newington, CT 06111, USA.

Results of 1997 LZ DX Contest

(call/band/QSOs/pts/mult/score)

VK8AV	A	92	336	23	7728
VK4TT	14	72	235	15	3525
VK4ICU	14	22	90	5	450

Results of 1997/98 Ross Hull Memorial Contest

Presented by John Martin, VK3KWA

The 1997/98 Contest was a mixed bag. There were several good tropo openings and some sporadic E on both six and two metres, and a number of very good contacts were made. On the other hand, activity was about the same as last year, and it was quite poor in the second half of the contest.

This is surprising because the level of year-round SSB activity is higher than it was a few years ago. I keep a list of callsigns heard on two metres SSB, and in my call area the number has increased by around one third in the last year. But only a few of the newer stations have been active in chasing DX over the summer. At the same time, a number of stations who used to be mainstays on bands like 2 m have been harder to find, because they tend to spend the DX season experimenting on higher bands.

Speaking of the higher bands: the 1997/98 contest is the first in which every band from 6 m up to 24 GHz was represented in the logs.

Winners

This year's winner is again Adrian Pollock VK2FZ/4, with a very high score on five bands. In second place comes Rob Ashlin VK3DEM, also with a powerfully good score and first place on the 70 cm band.

Third place goes to Phil Helbig VK5AKK, and fourth Wal Howse VK6KZ. Both did extremely well on 2 m and 70 cm, and Wal distinguished himself by being the first entrant to operate on nine bands.

I would like to congratulate Adrian on another excellent win. This will be his last contest for a while because he is dismantling his station to move QTH. Good luck Adrian, and I hope we will hear you back on air soon.

Congratulations also to the other place-getters, and to everyone who sent in a log. The scores don't tell the whole story in themselves, because they have to be weighed against the station location and the number of stations within normal working range. For example, Richard VK6XLR, who did very well considering that he is so far away from the main centres of amateur activity. Each one of this year's logs is something to be proud of.

Next Year

The 6 m scoring will need a close look (as usual). Scores should be based on the difficulty of making the contact, and this means that 6 m scores should not increase linearly with distance as they do on the other bands. Contacts within sporadic E range (say 1200 - 2400 km) should score about the same as local contacts. There should also be a similar "hump" in the scoring curve for multi-hop or TEP contacts.

1997/98 Ross Hull Memorial Contest Individual Listings

Call	50 MHz	144 MHz	432 MHz	1.2 GHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	TOTAL
VK2FZ/4	3903	3644	2422	2570	494	-	-	-	-	13033
VK3DEM	1317	3516	3792	2110	276	320	-	368	-	11699
VK5AKK	1550	3872	3500	70	-	-	-	-	-	8992
VK6KZ	267	4188	2037	170	13	32	48	512	32	7299
VK3CY	-	3108	2730	-	-	-	-	-	-	5838
VK2TWR	83	2396	3003	-	-	-	-	-	-	5482
VK7XR	820	1800	1512	630	-	-	-	-	-	4672
VK2BA	2349	856	-	-	-	-	-	-	-	3295
VK3TBM	46	936	819	200	-	-	-	-	-	2001
VK4KZR	-	1020	161	570	195	-	-	-	-	1946
VK3TLW	3	632	875	400	-	-	-	-	-	1910
VK4IC	110	792	-	-	-	-	-	-	-	902
VK6XLR	780	-	-	-	-	-	-	-	-	780
VK4GWC	22	104	70	100	-	-	-	-	-	296
VK3TMP	Check log									

The duration of the contest is still a subject of debate. For most participants the main attraction is the enhanced activity, and they want it to last for as long as possible. But it is a bugbear for those entrants who wish to get the highest possible score. It is like a marathon run in which the top prizes go to sprinters; and, quite naturally, the sprinters do not like having to run so hard for so long. The contest depends on the support of both groups of entrants, and it isn't easy to reduce the workload for the top competitors without killing activity.

As usual, comments and suggestions are welcome. I can be contacted QTHR or via the WIA Federal Office. Please note that I do not have Internet facilities.

Some Comments From the Logs

For the past five years I've tried to encourage VK7s to get active in the contest, yet I appear to be the only active contestant. The contest needs some category to encourage localised activity... *(VK7XR)*. This is my first contest. I have been an amateur for just over 12 months and operating 50 MHz since December 1997. There is no other 50 MHz operator within 1000 km... *(VK6XLR)*. I disagree with those who claim that six metre operators have the points stacked in their favour. With no multiplier, one has to work a lot of stations to keep up with those in good two metre locations... *(VK2BA)*. From my results, 50 MHz is too prominent and with the approaching sunspot maximum will become even more so. The last ten days were a washout... *(VK2FZ/4)*. I applaud the inclusion of a decent points system for 50 MHz. I was critical of the limit of ten contacts with any one station on any one band... *(VK6KZ)*. I feel the duration of four weeks is too long and it is showing by the number of operators who are not competing... *(VK3DEM)*. **ar**

Club News

Radio Amateurs Old Timers Club (RAOTC)

The Club's annual meeting and luncheon was held at the Bentleigh Club on Tuesday, 10 March.

73 members and friends attended and appreciated a very interesting talk by Mike Hassett, National Program Manager Communications at the head office of the Bureau of Meteorology in Melbourne.

Committee members elected at the meeting are Alan Cook VK3AUC, Milton Crompton VK3MN, Stewart Day VK3ESD, Allan Doble VK3AMD, Arthur Evans VK3VQ, Ron Fisher VK3OM, John Fullagar VK3AVY and Harry Maugher VK3KAE. Office bearers will be elected at the next committee meeting.

There has been a very gratifying response to the magazine label stickers advising the due date for membership subscriptions.

Allan Doble VK3AMD

Summerland Amateur Radio Club

The Summerland Amateur Radio Club is hosting its 9th Computer Expo. The venue is the Lismore (NSW) City Hall on Saturday, 30 May 1998, from 9.30 am to 4.00 pm.

Come along and check out the latest in computer technology, hardware and software. There should be two Internet sites up and running for you to try.

Tables will be provided for your pre-loved gear, so bring along your surplus and/or grab a bargain. Lucky door prizes and refreshments will be available during the day. Admission will be $3.00 each, or $5.00 per family.

For bookings and more information, contact Peter VK2LED on 02 6622 3862, or Graeme VK2GJ on 02 6685 1336.

Why not check out the club Web page at *www.nor.com.au/community/sarc/sarc.html*. Or leave an e-mail on *sarc@nor.com.au*.

Graeme Virtue VK2GJ **ar**

New WIA Members

The WIA bids a warm welcome to the following new members who were entered into the WIA Membership Register during the month of March:

L30969	MR J LOVELL
VK2BN	MR F B SMITH
VK3ACE	MR K J HASLAM
VK3HCJ	MR N SLEEP
VK3MAD	MR S L ANDERSON
VK3XSW	MR W STIRLING
VK3YSW	MR J O KELLY
VK3ZGP	MR G PAGE
VK7EKA	MR M MILLWARD
VK7KM	MR K E BADCOCK
VK7KPM	MR P J MCCAFFERTY
VK7LJB	MR J BYERS
VK7MBP	MR M A BOWERMAN
VK7OW	MR J G DAVIS

ar

Pounding Brass

Stephen P Smith VK2SPS
PO Box 361 Mona Vale NSW 2103

Morse Examinations

Sitting for a Morse examination is no different from sitting for the theory test, or any examination, for that matter. The most important aspect of the Morse test is being prepared, being confident but not over confident, and "giving it a go".

The job of the examiner is to see that you can correctly receive and send in plain language, including numbers, the required passage as set down by the examiners. They are there to help you. They are not there to keep you from becoming an amateur, or to make it difficult, or to intimidate you, or to enjoy themselves at your expense. Any questions you might have in respect to the exam, ask them. They will be only too happy to help you.

If you have prepared yourself for the required examination, and can comfortably receive the required text, you should have no trouble in passing the examination, except perhaps for a small case of jitters which is quite normal for some people.

The big day has finally arrived, you're probably thinking to yourself about the coming examination and trying to reassure yourself that everything will be OK. Let's tackle the receiving test first and next month look at the sending test.

I've sat in on some examinations over the years and watched some of the methods used in teaching the receiving test. Two methods are currently being used. They are;

1. Headphones with built in receiver; and
2. Audio Cassette.

Headphones

The signals are transmitted by radio to a small receiver built into the headphones with some form of volume control and muting function which is adjusted for comfortable listening. You are given ample time to make yourself as comfortable as possible and to prepare your paper and desk before the examination begins. Firstly some text in plain language is sent so you can adjust the headphone controls to your needs. Try moving your head around and see if this affects the received signal. The signal received is low power and the built in antenna is very directional, so do this now and make sure everything is working before the actual examination begins.

Next the examiner sends two to three minutes of text at exactly the same speed, tone and pitch as the actual examination. This is to calm the jitters and make you feel more at home. Listen very carefully to the text; treat it like the actual exam as this is the last practice you are going to get.

At the conclusion of this you are given time to make any last minute changes to your headphones and/or desk if required. I would leave things alone at this stage - better not to rock the boat at the last minute. The examiner usually asks if anybody has any final questions before the examination begins; if there are no questions the test then begins in earnest.

Somewhere in the course of the exam there is bound to be a letter or number which will seem to be impossible to copy. Don't try and work it out or you could possibly miss further text. A lack of concentration about the missing text could be fatal to the final outcome of the test.

A minority of people believe they can pass the required examination just on luck with very little preparation; others have no expectation of passing it until next time, they just want to sit in and experience it. Whatever the reason, you will probably hear pens or pencils hitting the desk, and sounds of disgust coming from these people as the examination progresses. Try to ignore them and concentrate on what you are doing; hopefully it will go well for you and you will be rewarded with a pass.

Audio Cassette

The Morse cassette follows similar outlines as above, except for a few points.

The Morse on the cassette these days is computer generated with the correct 3:1 ratio. The examiner usually sets the volume to a comfortable level for all concerned. If your hearing is not as good as it once was, by all means move closer to the front or nearer the speaker until it feels right for you. You are then given a two to three minute practice run before you sit for the final examination.

Preparation

If you are sitting for your Novice test, learn at about 8 wpm for the 5 wpm test; and about 14 wpm for the 10 wpm test for the Full Call. Don't go any higher as you might find it difficult to copy the slower text.

Set aside say 15 minutes per day and not a two hour session once a week.

Don't touch a key for sending, until you can correctly copy (more on this next month).

Make sure you are well prepared; give yourself, say, six months lead time to the examination.

Take to the exam with you some spare pens or pencils; there is nothing worse than running out of ink or breaking a lead during the exam.

And above all, enjoy yourself. It will open the doors of the world to you.

Finally, most examinations are either run through the WIA or your local radio club. Further enquiries can be made to them for more detail.

Good luck and good Morse to you.

ar

Good Web Site to Visit

A comprehensive e-mail listing of VKs on the Internet can be found on a Web site, run by Allan VK2NNN. It is believed that this listing was formerly made available by Guy VK2BBF. Allan says he has more than 550 VK e-mails at the time of writing. He is updating them daily. If you are looking for the list, the URL is:

http://www.ruralnet.net.au/~allan/VK_List/amateurs.html

You will also find under Allan's care the homepage of the Australian Amateur Radio Web Ring. This is a very good way for Australian hams to have their own homepages listed and a great way for amateurs to tour Australian ham sites, even if you do not have your own homepage. The URL for Webring is:

http://www.ruralnet.net.au/~allan/webring2.html

Allan's site contains much useful information including listings of amateur repeaters in Australia, State by State, and many general links. Certainly worth a visit and a very good example of how the Internet may be used as an adjunct to ham radio.

Help protect our frequencies! Become an Intruder Watcher.

How's DX?

Stephen Pall VK2PS
PO Box 93, Dural NSW 2158

Following my introduction to my March column, discussing distress signals from small vessels (under 1600 gross tons), I received two interesting letters from my readers, for which I thank them.

Neil VK2BBH refers to his past sailing experience and quotes regulations under the International Convention for the Safety of Lives at Sea, which indicate that radio-telephony be fitted to foreign going vessels of the coaster type being less than 1600 tons gross.

Jack Haden VK2GJH, a well known DXer under a variety of Pacific callsigns, wrote: *"The majority of small island traders which voyage within their own respective countries, seldom, if ever, use CW on any band. Primarily radio contact is maintained by way of skeds, etc on the HF marine network using 2, 4, 6 and 8 MHz SSB. Some 'company frequencies' also exist where constant communication is maintained; usually government owned vessels.*

"Channel 16 and 67 on VHF (156 MHz) also provides fairly reliable communications, especially in the low lying coral atoll islands of Kiribati and the Marshalls. As with a number of trading companies in the Pacific, amateur radio is used illegally by some shipping companies for regular radio skeds away from the marine band traffic.

"Yes, it's illegal, but has been happening for more years than I can remember. How would the Australian radio amateur know that the foreign language 'gibber' heard on 7060 is illegal island traffic? Unless he understands Gilbertese, or whatever the Pacific language heard at the time, he is none the wiser!

"The sextant too, has long vanished from the navigation bridges of island vessels. Handheld GPS units are now common, even on the most decrepit rust bucket you could imagine; such is technology!

"Distress traffic from ageing island vessels, which are most unseaworthy by our standards, is always a touch and go situation. Outside of sked time, some vessels have been known to be aground on a reef for a number of hours before help is raised on the radio. In the late 1980s I handled a distress call from a 16,500 ton merchant ship on 14 MHz amateur radio in distress off Kanton Island. He couldn't raise any assistance on the marine bands due to defective equipment; lovely, eh? That's the Pacific, old boy, and that's life."

ITU Day - 17 May 1998

The state divisions of the WIA are allowed the use of the special callsign AX*ITU (* representing the Division call area) from 0001 UTC on 17 May until 2359 UTC on the same UTC day. In the eastern Divisions (VK1, VK2, VK3 and VK4) this will be 1001 local time Sunday to 0959 local time on Monday, 18 May.

The New South Wales Division will activate AX2ITU on a variety of HF bands and modes. QSLs for this call should be sent to the QSL manager VK2PS either direct (SASE) or via the Bureau.

The Victorian Division of the WIA will be represented by the Eastern and Mountain District Radio Club which will activate AX3ITU. QSLs for this call should be sent to VK3ER, PO Box 87, Mitcham VIC 3132 (SASE) or via the Bureau. A special QSL card will be printed for the event.

"New" DX Country - H40AA

The South China Sea DX Team (SCSDXT) has announced that, having studied the new DXCC rules which came into effect on 31 March 1998, they discovered a number of new DXCC entities (countries). One is the Temotu Islands (formerly known as Santa Cruz Islands).

This island group is located in the South Pacific and is the easternmost province of the Solomon Islands. It was suggested that the new entity (country) will consist of all the islands making up the Solomon Islands' Temotu Province. These include the Reef Islands, Duff Islands, Tikopia Island, Amuta Island and Fatuaka Island, with a total surface area of only 926 sq km although they are scattered over more than 150,000 sq km of the South Pacific.

The H40AA activity will take place from Lata, a small village on Nendo Island, the largest island in Temoru located at 10 degrees 43. 5 minutes South and 165 degrees 48.1 minutes East and far off the tourist path.

Temoru is separated by more than 350 km (the new distance) from the rest of the Solomons (the "parent" country) and should easily qualify as a "new" DXCC entity.

The SCSDXT together with the Solomon Islands Radio Society, has organised a full scale DXpedition to Temoru and is preparing an application for the new DXCC "entity" status.

The team for this operation includes amateurs from four continents and consists of H44GP, H44GR, JA5DQH, N4GN, N7NG, OH0XX, OH1RY, OH2BE, OH2BH, OH2TA, W6OSP and 9V1YC. The Solomon Islands Telecommunication Authorities have agreed to assign the H40 prefix to this and any future amateur operations from that island.

Two small aircraft have been chartered to transport the operators and equipment from Guadalcanal to Temotu Islands. The operators arrived on the island on 21 March and were using their individual H44 calls whilst making final preparations for the main event. They took part in the CQ WPX SSB contest.

The birth of a new (hopefully) DXCC entity took place at 2359 UTC on 31 March when the H40AA callsign was aired for the first time. The team employed the usual YAESU FT-1000MP and FT-900AT transceivers, as well as Alpha and FinFet amplifiers.

Cards for the H40AA activity will be direct only, or via the OH Bureau to Jarmo Jaakola OH2BN, Kiilletie 5C 30, Helsinki 00710, Finland. It is hoped that, if the status of H40AA is approved, the new entity will be on the official DXCC list as from 1 October.

There is also a further rumour, from reliable sources, that two other island groups will be declared in the future as new DXCC entities.

Southern Sudan - ST0 - Deleted

The ARRL Membership Services Committee announced on 12 March that both the ARRL DXAC and Awards Committees have voted to delete Southern Sudan ST0 from the DXCC list.

While the status of Southern Sudan changed in 1983, QSOs made before 1 January 1995 will count for the deleted country. There are two reasons for that decision. First, there have been accredited operations since 1983. The QSL cards from those operations have been processed, many of them onto paper records. It would be very costly, and almost impossible in terms of money and time, to search and remove the post 1983 ST0 QSOs individually from the records.

The Committees agreed also to make no change in the status of Fernando de Noronha PY0F and Kure Island KH7.

The DXCC countries list will now drop to 328. Southern Sudan is probably the last country to be added to the DXCC "Deleted Countries List" raising the total to 58. Once the new DXCC 2000 rules came into force as from 31 March, no more deleted countries or entities will be added to the deleted list; the countries simply will be removed from the list.

Southern Sudan was deleted from the list because ST0 no longer meets Point 1 of the DXCC countries list criteria, that of independent state of administration. The Addis Ababa Accord gave ST0 a "distinctively separate administration". This administration was dissolved by the Government of Sudan in 1983. The end result was a civil war which is still continuing. There is no government anymore in Southern Sudan; all the region is under the administration of the Sudanese Government.

It has been reported that Claus ST1AP will be active from Southern Sudan area as ST0AP between April and September. He will only be on 20 metres on 14332 kHz around 0730 UTC. QSOs will count as Sudan. QSL via DJ6SI.

St Brandon Island - 3B7

This DXpedition, organised by a team of fifteen amateurs mainly from Switzerland, will take place from 5 to 17 May. The Cargados-Carajos archipelago (St Brandon) consist of 22 small islands, one of them being Raphael Island where the DXpedition will be located. They promise to give a chance to everybody, as far as possible, including the QRS and QRP operators.

The island group belongs to the Republic of Mauritius (3B8) and is situated about 400 km to the north of Mauritius itself. Jacky 3B8CF/3B9 who operated from St Brandon in September 1991 is part of the expedition.

The expedition will have four stations with 1 kW amplifiers and corresponding antennas. They plan a 24 hours operation on all bands according to the time of the day on CW, SSB, RTTY and SSTV. Proposed frequencies are: CW 1826.5, 3507, 7007, 10104, 12024, 18074, 21024, 24894 and 28024 kHz; SSB: 1.842, 3799, 7065, 14195, 18145, 21295, 24945 and 28475 kHz. All operations will be split, "up" to a maximum 15 kHz for CW and 20 kHz for SSB.

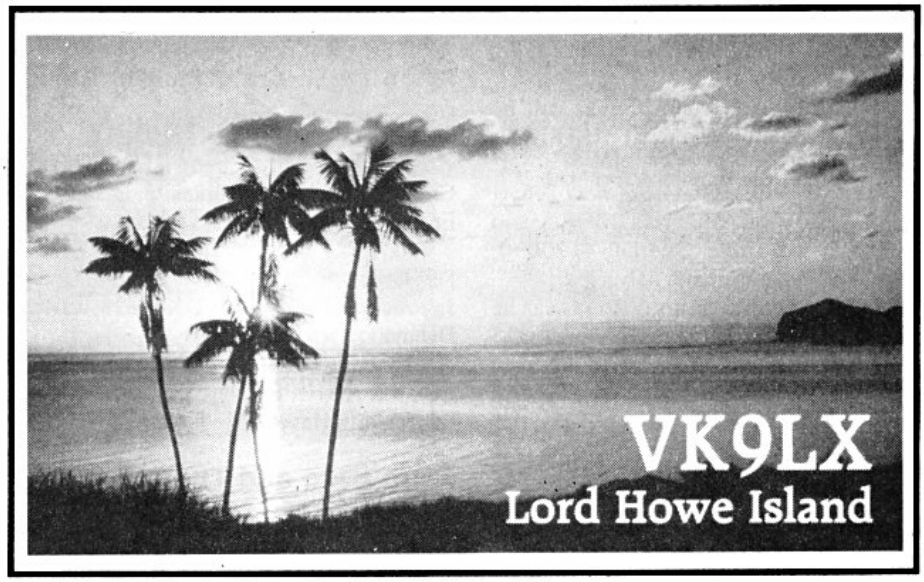
QSL via HB9RF/3B7, Postfach 37, 6319 Allenwinden, Switzerland.

Canary Islands - EG8OTA

This special event station will be situated at the 1998 "European IOTA Convention" to be held from 1 to 3 May. The Convention Headquarters will be situated at the Reina Isabel Hotel on the Canary Islands. The Convention will follow the regular pattern of conventions generally; however, the main topic will be the IOTA program and its future. There will be visits to local sites of interest and there will be several oral and video presentations about a variety of island DXpeditions, including Spratly and Heard Islands and other adventures.

The main guest speaker will be our own Mal Johnson VK6LC, the well known Australian "island activist", who will talk about his own IOTA adventures and about "How to organise an Island operation in Australia".

My spies tell me that he will also make some important announcement about his future IOTA activities.



The QSL card for the November 1997 VK9LX activity.

Amsterdam Island FT5ZH

The Lyon DX Group has announced that the next DX activity on Amsterdam Island will take place as a DXpedition during December 1998. The main operator will be Mehdi F5PFP and the second operator will be Eric F5SIH.

They intend to stay on the island between two boat visits which could mean one month of activity. There will be no official government work involved, therefore Mehdi can occupy himself totally with amateur radio. The activity will be on all bands, 160 to 10 metres, and use CW, SSB, and RTTY. They will have amplifiers and beam antennas.

If you feel that you can support this activity with your donation, then please send your contribution to the treasurer of the group, Eric Blanchard F5PXT, 2 Rue Bichat Bat 32, 69002, Lyon, France.

Campbell Island - ZL9

Plans are now at an advanced stage for the 1999 January DXpedition to Campbell Island. ZL9, a New Zealand sub-Antarctic group of islands situated south of New Zealand at 51 degrees South and 170 degrees East, at about the same latitude as the Australian Macquarie island.

The Kermadec DX association, which had a very successful DXpedition to Raoul Island in 1996 (ZL8RI), will mount a full scale DXpedition with an international team of operators from New Zealand, Japan, Canada, the United States and Ireland. The necessary Government permissions were obtained and transport is already arranged.

The expedition will start on 9 January and they intend to be on the air until 25 January operating SSB, CW and RTTY on all bands. Ken Holdom ZL2HU is the team leader (The Kermadec DX Association, PO Box 56099, Tawa, Wellington, NZ) and he is looking for financial support for this activity which will cost approximately $US65,000. All donations will be acknowledged and will be refunded in the event the DXpedition does not proceed.

Future DX Activity

* **Vietnam** - Toly **3W5FM** is often heard on 20 m CW around 14007 kHz at about 1330 UTC. QSL via UA0FM, PO Box 66, Vladimir City, 63011, Russia.

* **Mongolia** - A Hungarian DX group, members of the Pannon DX Club, will operate from Ulan-Bator from 17 May to 2 June. The team includes **HA0HW, HA4GDO, HA6NL, HA7SK** and **HA7VK**. They plan to keep two to three stations simultaneously on the air for 24 hours a day in the SSB, CW and RTTY mode. Suggested frequencies are CW: 1821, 3511, 7011, 10101, 14011, 18071, 21011, 24891 and 28011 kHz; SSB: 1841, 3789, 7089, 14189, 18141, 21289, 24941 and 28489 kHz; RTTY: 14079 and 21079 kHz. The DXpedition will take part in the CQ WPX CW Contest and they hope to get permission for the special **JU0HA** callsign. Donations to Szabo Laszlo HA0WH, PO Box 24, Puspokladany, H-4151, Hungary.

* **Guinea - 3XY7A** is on air on SSB on 40 and 20 m. QSL via VE6DYS.

* **Nepal** - Sures 9N1HA is active on SSB

and CW with 100 W into a dipole on 20 and 15 m after 1100 UTC. QSL via PO Box 4292, Katmandu, Nepal, Asia,

* **Martinique** - Bruno F5JYD will be active until the end of June as **FM5JY**. QSL via F5JDY.

* **Iran - Hamid EP3HR** is now active, especially on 17 m. QSL via I2MQP, Mario Ambrosi, Via Delle Querce, 4120090, Rodano Millepini Milano, Italy.

* **Pitcairn Island - Betty VR6YG** can he heard again around 0000 to 0100 on 18115 kHz. QSL via K6RPF.

* **Ecuador** - John K4ERO is now a resident and on the air as **K4ERO/HC1**.

* **Vietnam** - **3W7TK** was heard on CW on 20 and 15 m. QSL via OK1HWB.

* **Lesotho** - John W3JLR (ex KA3DBN) will now be active with the **7P8** prefix from 1 to 21 May. QSL via K3BEQ.

* **Maldives** - Lorenzo IK5MDF will be on the air from 2 to 8 May as **8Q7DF** from Alimatha Island. QSL via his home call, Lorenzo Tabaracci, PO Box 142, 54633 Carrara, MS, Italy.

* **East Malaysia** - Peter PB0ALD will be active as **9M8CC** until 22 May. QSL via home call.

* **Rhodes Island** - Jim **SV5EPB** and George **SV5DZG** will be on the air on every weekend in 1998. QSL via the Bureau.

* **Bangladesh** - YL operator Mamtaz S21J is active around 14200 - 14216 kHz between 1230 and 1400 UTC. QSL via Mamtaz Shahid, GPO Box 3512, Dhaka - 1209, Bangladesh.

Interesting QSOs and QSL Information

* **HK/KB5GL** - Silvano - 14260 - SSB - 2230 - March. QSL via AC7DX, Ron Lago, PO Box 25426, Eugene, OR-97402 USA.

* **XW3OA** - Eric - 18145 - SSB - 1058 - Jan. QSL via SM0AGD, Eric Sjolund, Vestagatan 27, S-19556 Marsta, Sweden.

* **T88TT** - 14002 - CW - 1312 - Jan. QSL via 7M1STT, Ken Suzuki, l6-6 Nishishizu 5 Chome, Sakura, 285-0845, Japan.

* **JY9RU** - Dan - 14180 - SSB - 0510 - Jan. QSL via F6ARU, Daniel Rogowski, 94 Chem Vittone, Bellevue, F-73000, Chambery, France.

* **YS1X** - Raija - 14195 - SSB - 0529 - Feb. QSL via OH2BU Jari Jussila, Pilvijarvi, Fin-02400, Kirkkonummi, Finland.

* **4JA9RI** - Rashid - 14209 - 1257 - Feb. QSL via Box 116, Ktoprak, 81031, Istanbul, Turkey.

* **9N1FP** - Vlad - 14008 - CW - 1344 - Feb. QSL via RU6FP, Vladimir Zakharow, Kulakova 27/2 - 116, Stavropol 355044, Russia.

* **KA4IST/KH5** - Mark - 14160 - SSB - 0308 - Feb. QSL via AC7DX, Ron Lago, PO Box 25426, Eugene, OR-97402, USA.

* **V51SG** - Sigi - 14164 - SSB - 0539 - Feb. QSL via Sigi Graf, PO Box 116, Tsumeb, Namibia, Africa.

* **9G5VJ** - 14027 - CW - 0623 - Feb. QSL via G4ZVJ, Andy Chadwick, 5 Thorpe Chase, Ripon, North Yorkshire, HG4 1UA, England.

* **4L1DX** - Shoa - 14197 - SSB - 1236 - Feb. QSL via OZ1HPS, Lars Peter Henneberg Jacobsen, Toften 18, DK-7323, Give, Denmark.

* **VP2VI** - 14 MHz - CW - 2047 - March. QSL via AB1U, Richard J Casey, 8 Nancy Lane, North Haven, CT-06473, USA.

From Here and There and Everywhere

* Harry RA3AUU advises, on behalf of the QSL Bureau of Soyuz Radiolybitelej Rossi (The Union of Radioamateurs of Russia) an IARU affiliated Society, "I would like to inform everyone that the only official address for the **QSL Bureau in Russia** is PO Box 59, Moscow 105122, Russia.

. . . this activity . . . will cost approximately

$US 65,000.

All donations will be acknowledged . . .

* Wally **R1ANZ** from Mirny is on its way from the Antarctic to his hometown Murmansk. You might work him during May as UW1ZC/mm.

* Frank **DL7FT** started activity from Niue as **ZK2FT** on 21 March. Unfortunately, whilst erecting the 80 m vertical antenna, he slipped and hurt himself badly, falling on rocks. He had cuts and bruises all over his body and was off air for a number of days. He only returned on air on 27 March. He was on 80 metres and told me that he is still visiting the doctor daily. He hopes to be active as **A35FT**, **ZK3FT** and **3D2FT/R** during April and May.

* **ZK1DI** left South Cook for Germany on 30 March.

* Kerry VK4MZ was active from Mongolia as **JT1FCO** at the end of March and was also part of the Mongolian Contest station **JU1J** team during the CQ WPX contest. QSL direct only to his home call VK4MZ, Kerry S Viney, PO Box 381, Gympie, QLD 4570.

* From time to time you can hear Andy **9X0A** working from Burundi as **9U5/9X0A** every Tuesday. Andy is situated 100 km south of Kigali, the Rwandan capital, and 30 km north of the Burundi border.

* The Iraqi amateurs have reappeared on the bands, polite and friendly. I had a long QSO with Bassam **YI1RS** (QSL via Box 55072, Baghdad) and with Ahmed **YI1ALW** (PO 7044, Baghdad). They were calling CQ at strength S8 with very few takers on 20 m at 0620 UTC.

* Satish **9N1AA**, a resident Nepalese amateur, will move soon into a new house and will have an all-band and all-mode capacity including 160 metres, for which he has received special permission.

* Oleg UR8LV is active as **EM1LV** from Akademic Vernadsky Base on Galindez Island (AN-006). QSL via UR8LV, Oleg Satyrev, PO Box 9909, 310070, Kharkow, Ukraine.

* Daniel **JY9RU** left Jordan at the end of March. QSL via home call, F6ARU.

* **Estonia** - The following stations are active to celebrate the 80th anniversary of the Estonian Republic. **ES80R** (QSL via ES7RE), **ES80Q** (ES5MC or ES5RY), **ES80J** (ES1AX), **ES80L** (ES6PL) and **ES80M** (ES1QD).

* The special call **HG5P** will be used on 14 - 31 August and 14 - 31 October. QSL via the Bureau.

* The German DXpedition on Chatham Island began on 23 February using the **ZL7DK** callsign. Five German amateurs and one German with an Indonesian callsign made 25,648 CW, 1,629 SSB and 1,635 RTTY contacts during a two week activity. They were on the air on nine bands. All QSLs go to DK7YY, Falk D Weinhold, PO Box 700 343, D-10323 Berlin, Germany.

* It has been reported by Terry **VR6TG** on Pitcairn Island, that the VR6 prefixes will switch to VP6 prefixes beginning 1 May 1998. It appears that the VR prefix was given to China at the time when Hong Kong was returned to China.

* The **Portuguese DX Net** has been reactivated on Saturdays between 1000 and 1200 UTC on 21280 or 28480 kHz. Net controller is CT1ERK.

* Steve K2WE and Les W2LK were active from **Vietnam** as **3W6WE** and **3W6LK.** QSLs for these activities will go via their home calls. The Vietnamese Kasati Club Station was also active with the callsign **3W6KA.** QSL for this call is via Kasati Ham Radio Club, PO Box 76, Saigon, Vietnam.

* Michael reminds everybody again that QSLs for **5R8EE** and **FR5EL** should go direct to his only safe mailing address: Michael Hoarau, PO Box 87, F-9783, Tampon, Reunion Island, France.

* If you have not heard any **Indonesian stations** on the air between 23 February and

14 March, the reason was that they were under strict "radio silence".

* Correction of age. "Macka" VM4AA, about whom I wrote in my March column is not 78 years old, but 87! We wish him continued good health.

* Bill Kennamer K5FUV, the **ARRL DXCC manager,** will act now as Membership Service manager at ARRL HQ as from 20 April. Bill's replacement has not yet been announced.

Late News - H40AB

Whilst the Temotu DXpedition H40AA has been widely publicised since the middle of March, Jim Smith VK9NS of HIDXA was quietly preparing to put the possible new DXCC entity on the map under the callsign of **H40AB**. He started operating on the same day as the first station. Jim flew to Santa Cruz (Nendo) Island, then sailed a canoe for three hours to reach Pigeon Island which is in the Reef Island Group. He opened up on the well known frequency of 14222 kHz and said that he would be there until about 12 or 13 April. He was using battery power generated by solar panels, but by 5 April he will have a proper power supply flown in from Honiara.

Jim complained about the multitude of mosquitoes on the island. At the closing of this column on 1 April both H40AA and H40AB had very big "pile-ups".

QSLs Received

5A28 (5 m - OE2GRP, Box 200, 5203 Neumarkt, Austria); ZB2/DL2NBU (4 m - DL2NBU); VP6CWI (3 m from Serge Shitov, PO Box 559, Port Stanley, Falkland Islands, United Kingdom); TT8JFC (4 w - WA4ZBJ, L B Cantrell, PO Box 187, Loch Loosa, Fl-32662, USA); V44NK - (5 m - Karl D Sage, PO Box 549, Charlestown, Nevis, West Indies); A92GD (3 w - K1SE).

Thank You

Many thanks to all who supply me with news and other information, which I appreciate very much. Special thanks to VK2BBH, VK2EFY, VK2GJH (T30JH, C21JH, V63JH, etc), VK2ICV, VK2KFU, VK2TJF, VK2XH, VK2ZRH, VK3DYL, VM4AA, VK5WO, VK6LC, VK6NE, ZK2FT, *DXCC News Release*, *Ohio/Penn DX Bulletin*, *QRZ DX*, *The 425 DX News*, *The DX News Letter* and the *DX News Magazine*.

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Have you advised the ACA of your change of address?

Intruder Watch

Gordon Loveday VK4KAL
Federal Intruder Watch Co-ordinator
Freepost No 4, Rubyvale QLD 4702
Tel: 07 4985 4168
Packet: VK4KAL@VK4UN-1

The Region 3 Intruder Watch Co-ordinator, ZL1CVK, supplied the following information.

"Broadcast stations are again in the news. The importance of trying to identify these stations cannot be stressed enough. Broadcast station engineers are among the few professionals who do NOT like to cause any interference on other bands. They have proven to be the most receptive to advice that they may have faulty equipment and in many cases take immediate action to resolve the problem, thus removing themselves from our bands. But we must get a positive ID.

"Indonesian intrusions, particularly in the 40 and 20 metre bands, appear to be decreasing. Vigorous defence of these bands by VK amateurs, seasonal variations in work habits, increased use of cell phones, or perhaps the very depressed state of the Indonesian economy, may all play a part in this welcome decrease. Whatever the cause, it is good news for legitimate amateur users.

"The Voice of Russia on 7.100 kHz will not go away. This is in spite of efforts by many organisations and individuals. Region 1 MS Co-ordinator, Ron G4GKO, in particular, has orchestrated a huge response from amateur organisations in that region.

"However, to date VOR has refused to move, so keep the reports coming in. To help, I can now give an address: The Frequency Manager, Voice of Russia, Pjatnizkaja 25, 113 326 Moscow. The e-mail address is listed as letters@vor.ru.

"At present, signals which are allowable in Region 1 but not in Region 3 are still treated as intruders."

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A summary of intruders logged during February.

FREQ	DATE	UTC	EMM	DETAILS
3.560	04	1130	A3A	Political party speeches
3.560	13	1821>	A3E	UiBC, non amateur, M & F voices
3.588	03	2050	A3A	UiBC, non amateur, lang pos African?
3.629	03	2044	A3J	Ui Asian network, non amateur
7.000	01	1044	J3E	UiBC, foreign voices, non amateur
7.016	06	1114>	A3J	Ui Asian, musical recital, songs
7.020	13	1540	A3E	UiBC, alternate freq de VOBME
7.020	01	1040	J3E	UiBC, non amateur, foreign voices
7.025	05	1115	F1B	RTTY, 425 Hz, 50 bd encoded tfc
7.035	02	1025>	A1A	UiCW, encoded 4 fig tfc
7.037	09	0930>	A1A	BCN, op daily to 2034z CIS
7.0389	08	1912	A1A	BCN, groups, 3 x "P" daily CIS
7.0391	08	1910	A1A	BCN, groups, 3 x "F" daily CIS
7.085	13	1535	A3E	VOBME, Asmara, local service
7.092	19	1123	NON	Unable resolve voice in AM
7.096	11	1215	xxx	Parasitic sp xmission, 12 kHz wide
7.0985	26	0005	A3A?	UIBC, no further info
7.0988	21	0500	A3A	Voice of Russia, world serv, daily
7.105	16	Daily	F3?	UiJAM, China to Taiwan?
10.138	23	1122	A3J/L	UiBC, Asian net, non amat/music
14.116	23	1100	F2B	UiVFT, n/amat, nil shift measured
14.162	06	1205	B9W	Sig not hrd previously, 5 kHz wide
14.210	25	1212	A3A	UIBC, too weak for ID
14.210	09	0428	F1B	Int tfc encoded, 425 Hz 50 bd
14.240	26	1110	A3A	VoA, MOST Chinese
14.300	23	1109	xxx	Parasitic, 12 kHz wide, sin 7.046
18.070	13	1010>	xxx	UiTeleph, Indonesia, n/amat, males
18.072	20	1006	J3E/U	UiBC, n/amat, foreign male voices
18.075	16	1138	A3E	UiBC, SE Asian, n/amat
18.105	13	1030	J3E/U	UiBC, sw brd/ph/patch, n/am, Indon
18.131	16	1047	J3E/L	UIBC, n/amat, Chinese?
21.178	10	0720	A3E?	Non amat/commercial, brg 98 deg from Perth, bringing it to Melbourne area; I bring this to notice as it seems to be a network of illegal ops using dubious call signs, eg AXM 369 etc, within VK - be on alert for it.

ARDF
Amateur Radio Direction Finding

Ron Graham VK4BRG
PO Box 323, Sarina QLD 4737
Packet: VK4BRG@VK4BRG.#CQ.QLD.AUS.OC
E-mail: *rongraham@magnet.com.au*

ARDF Column

Some readers may have noticed a break of two months between the last two columns. This was to enable the magazine's editor to reorganise the bi-monthly columns. So, now this column should appear every odd numbered month.

Thanks go to Mark VK3JMD, his wife Sue VK3LSL, and Jack VK3WWW for their major contribution to the March column.

This could be a good time to remind everyone it was the writer's intention that this column would provide an open forum on matters relating to direction finding in general and ARDF in particular. So, if any individual or group has anything to contribute, from a few lines to a few paragraphs, I would be pleased to hear from you.

Future of ARDF

It is pleasing to note Guides and Scouts getting involved in ARDF type activities, particularly when there is a major amateur radio involvement. The Guides in South Australia, promoted from their headquarters level, are getting some two metre equipment together with the assistance of Matt VK5ZMC and, I understand, others. To the north, in Darwin, Frank VK8FT is building two metre equipment for Scouts. Hopefully, we will be able to report more on their respective activities in the future.

It is my opinion that a definite contribution from amateur radio to the "public arena" will be necessary for our survival in the future. This contribution would both help us conserve the right to our bands and, as we would be more in the public eye, should assist in the recruitment of more potential amateurs.

Currently, as amateurs, our public spirited activities are essentially confined to JOTA and WICEN (in which we could include communications assistance at various rallies, etc).

I think there are some ARDF type activities that can offer various inputs to the above mentioned "public arena" which we should be considering.

Possibilities that come to mind and that we may be able to pursue are:

1. Follow up Guide and Scout involvement.
2. Try and introduce ARDF activities at the regular JOTA. This could lead to more serious involvement as referred to in item 1.
3. Assistance to various "wildlife research groups" in tracking animals, birds and other creatures.
4. Assist with locating "wanderers".
5. Assist in locating activated emergency beacons.
6. Others.

Tracking Bats and Owls

With reference to item 3, I note recent comments from the Melbourne Fox Hunting Group regarding their possibly working with the Department of Natural Resources and Environment and assisting in the tracking of bats. The frequency used is in the 150 MHz area. Also, from the US I noted "Hams needed to assist Wildlife Research". This referred to the tracking of endangered Burrowing Owls from Central Canada that migrated south last fall. Apparently bad weather kept tracking aircraft on the ground so hams, particularly those with portable DF equipment, are being sought to assist in locating these birds as they migrate back northwards. Pulsed signals near 170 MHz are used.

Taking this theme further, I noted on a recent trip to Antarctica quite a lot of effort going into tracking a variety of creatures. This included albatross on their 5,000 km journeys, seals to a depth of 80 metres, penguins on their (often hundreds of kilometres) trips across the sea ice and their return. Reference was made to some of that tracking being "done via satellite". Nevertheless, there must be some interesting technology involved; it would be nice to have more details.

The point of all this is many of those "research groups" are often operating on limited budgets, and I am sure most would appreciate any free assistance that amateurs may be able to provide.

Wanderers

In item 4 the term "wanderer" is applied to those (often the elderly) people who wander away from nursing homes, etc. Sometimes these people are in the care of relatives and live in a normal house type situation. A system exists where the person involved wears a small pendant around the neck that contains a miniature transmitter (in the 151 MHz band in this country).

From my information, the DF receiving equipment may be kept by the nursing home or the local police, or in the case of them living with relatives, one of those relatives. These people are naturally given some training in the use of the DF equipment when it is initially obtained. One problem that has been mentioned is that, in the case of the police, the person that has received the training has sometimes been transferred by the time the equipment is required for use. One can see other potential problems that could occur with people being unavailable, having lost their proficiency with the equipment, etc when they are needed. It occurs to me that a willing amateur (or amateurs) in the districts involved could be extremely beneficial in assisting with any searches and/or keeping others involved up to date with training.

Emergency Beacons

Regarding item 5, emergency beacons, these devices, operating on 121.5 and 243 MHz as used by marine and aviation, have been around for a long time. Their potential, particularly as the newer satellite system gives much better coverage, is being recognised by four-wheel drive operators, bush walkers, etc. Also, the various Australian States are, one by one, legislating that all boats proceeding "offshore" must carry a beacon. All this means a greater proliferation of beacons (some say, being used by often less responsible people) and thus a greater number of activations, both real and unintentional.

Australian authorities currently have a policy of locating ALL activated beacons. Here again, amateurs with DF capability on those frequencies can, on occasions (and particularly those in the remoter areas), be of assistance.

ARDF Challenge

I mentioned "others" in item 6, mainly as a reminder that I am sure other "public spirited" DF type activities must currently exist, or come into existence, if we are keen enough to pursue these matters.

Organisation, I guess, is what's needed if we are to become involved in these and/or other "public spirited" activities.

Who, or what body will take up the challenge?

I did learn of one more ARDF Group some weeks ago, located in Canberra. They have a homepage at *http://www.commslab.gov.au/neil/fox/foxl.htm*

Late News

In Thailand, it is reported that some 8,000 Scouts have recently learnt of the existence of amateur radio via Fox Hunting training in Scout camps. ARDF in Thailand has the support of their Crown Princess, close co-operation with the Posts and Telegraphs General Director HS1BF, and the Scout Activities Director. The Radio Amateur Society of Thailand (RAST) seems very keen to promote ARDF in their country. More details in the next column.

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Spotlight on SWLing

Robin L Harwood VK7RH
5 Helen Street, Newstead TAS 7250
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Packet: VK7RH@VK7BBS.#LTN.TAS.AUA.OC
E-mail: *robroy@tassie.net.au*

FRG-7700 Second Receiver

At the recent Tasmanian Divisional Convention in Launceston I saw a very well presented Yaesu FRG-7700 sitting at the trade table. It was love at first sight and I quickly negotiated the sale with a fellow ham. I have not regretted it as it has performed remarkably well compared to my existing Icom R70, which is about the same vintage, and I am hearing signals that the Icom cannot detect, particularly on the higher frequencies. The FRG-7700 came with two accessories, the FRV-7700 and the FRT-7700, both of which initially worked after installation yet it may be that the connections are loose.

A good listener/monitor always should have a second receiver to make comparisons. This is highlighted by the contrast between the Icom and the slightly older Yaesu.

One slight drawback is that the FRG-7700 is not capable of exalted carrier selectable sideband (ECSS) like the R70. However, on AM the Yaesu is better, having several filters to choose from, which gives better audio, depending on the signal strength.

Northern Hemisphere on Daylight Saving

On the last weekend of March, the majority of broadcasters made their half-yearly frequency changes, to take account of seasonal fluctuations. This coincides with most of the Northern Hemisphere going on to Daylight Saving. The continental 48 states of the USA and five of the six Canadian provinces went on Daylight saving on 5 April and not on 26 April as I wrote in last month's column. I am unsure whether Alaska and Hawaii are on Daylight Saving.

European signals are coming in very nicely here in northern Tasmania. The African Service of Vatican Radio is easily heard at 0630 UTC in English on 13765. Also, on 13830 kHz which is outside the normal 22 metre broadcasting allocation, the Croatian Radio from Zagreb is easily heard at 0700 UTC. Interestingly, it commences with a five minute English bulletin, often read by a female with a distinctive Australian accent. The bulk of the programming is in Croatian and is beamed to Australasia, where there is a sizeable Croatian speaking community.

Radio Slovakia International

Another new European nation that appeared after the end of the Cold War, is Slovakia. Formerly the eastern part of what was Czechoslovakia, the nation came into being for the first time on 1 January 1993 when the two nations split into separate entities.

Before what came to be referred to as the "Velvet Divorce", Radio Prague was a popular and easily heard station. Transmitters for the station were mainly on the Slovakian side and the two nations shared resources for a time; but the Slovakians have gradually eased the Czechs out.

Also, for a time, these senders were leased out to Adventist World Radio. Radio Slovakia International is based at Bratislava and its programming was not often heard here. Now, with the introduction of European Summer Time, the broadcasts are an hour earlier, which has made it easier to hear them. Listen on 9440 kHz from 0700 UTC for a 30 minute daily English program followed by a Slovakian program.

Radio Prague

Radio Prague, the Czech external service, is also having budgetary hassles. Many language services were recently cut and no funding has yet appeared. I have not heard it for quite a while, and reports indicate that it is a European only service.

Radio Portugal off Short-Wave

Yet another nation has left short-wave. Radio Portugal made its last broadcast on short-wave on 31 March. Lisbon only commenced external broadcasts in the early sixties and was at one time known as the Voice of the West. All external broadcasts via HF now have finished. However, they continue on the Internet in Real Audio format and also via satellite feed to re-broadcasting domestic stations in former African colonies, Brazil, Macao and the Cape Verde Islands off the North African coast. Also, Estonia is again off short-wave although external programming continues on MW and also on Real Audio on the Net.

Voice of African Democracy

The US is to fund an independent "Voice of African Democracy" which is to be a part of the VOA, yet separate from it. Programming should commence next month in English, French, Hausa and Swahili, plus three other prominent African languages. It will be on short-wave and also be available for domestic relay. However, the latter is highly improbable, as the media is heavily State controlled in the majority of Africa.

Radio Australia - Darwin Relay

The future of the former Radio Australia Darwin relay is in the balance. Almost 12 months ago the eight senders were put into mothballs when our own external services suffered a huge budget cutback. Programming was also significantly reduced. The 24-hour English service has virtually become a relay of Radio National, the ABC's arts and cultural network.

Radio Australia does continue from the Shepparton, Victoria site with virtually flea-powered transmitters of 100 kW or less. Darwin's transmitters were 250 kW and are significantly closer to the target areas. The 23 March issues of the *Melbourne Age* had a very interesting article by June Factor, entitled "Asia now waits for switch on Radio Australia". Since the Darwin site was closed, Asian audiences that formerly relied on hearing Australia's friendly voice, now struggle to find it from Shepparton.

Late last year, a massive economic collapse hit many Southeast Asian nations such as Indonesia, Malaysia, Thailand and South Korea. An ambitious scheme to have an Asian satellite system broadcasting TV and radio into the region has now floundered, due to a combination of a launch failure and the extended economic crisis. Some commercial broadcasters using existing facilities also have gone under, because of the lack of enough sponsorship and the fact that very few people have satellite dishes.

It is quite apparent that the majority of listeners in the ASEAN region will still be relying on short-wave radio to get their unbiased news and other information.

Hence, there is pressure for the re-introduction of the Darwin relay to get the signal into the target area.

Other broadcasters are aware of the strategic significance of Darwin and some have already put out preliminary feelers for either using it or acquiring it outright. However, the Federal Government is acutely aware of how this could impact, when it turned down an American request for the clandestine American financed "Radio Free Asia" to use it to broadcast trial programming in Lao and Burmese.

It is believed that the Chinese government made their position clear to Canberra on their views about RFA and it was heard loud and clear. Will we see the Darwin site reactivated? Only time will tell.

(My thanks to Drew Diamond VK3XU, for alerting me to the original "Age" article.)

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AMSAT Australia

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John Glenn ... A Potential Amateur?

Veteran astronaut John Glenn is reported as having an interest in obtaining an amateur radio operator's licence in time for his planned return to space on board the STS-95 US Space Shuttle in October this year. A SAREX package is expected to be carried on STS-95. European Space Agency astronaut Pedro Duque of Spain will also be among the international crew aboard the STS-95 shuttle flight. Pedro holds the amateur radio callsign KC5RGG.

New Cavity Filter for MIR Amateur Radio System

The Progress 38 cargo rocket has delivered the new MIREX-DCI antenna filter to the MIR space station. This filter will be used to prevent interference to the two metre PMS station from commercial transmitters aboard MIR which operate on adjacent frequencies.

The filter is a custom designed antenna cavity which will block the interference with a combination of pass band and notch filters. The filter is tentatively planned for installation in the April/May time frame. It is hoped that this will significantly improve the performance of the two metre MIR PMS packet system.

So, all you people who had planned to avoid QRM by going off into outer space at the first opportunity, don't bother! It will probably follow you.

Oscar-11 Still Going Strong

Oscar-11 celebrated its 14th birthday on 1 March 1998. It is a wonderful achievement by the UoSAT team at the University of Surrey, England who designed, built and launched the satellite in a period of only six months. As one would expect, there have been a few component failures during its long time in orbit. Despite this, Oscar-11 is still going strong, which is a credit to those responsible for its design and construction.

This satellite has contributed a great deal to the educational scene right around the world. Like many other class-room teachers I used its telemetry broadcasts as part of the study course for my year-12 electronics students.

It was also used at my school during the Trans-Polar Ski-Trek back in 1988. A party of Russian and Canadian scientists made an epic journey on foot from Cape Arcticheski in northern Russia, across the ice to the north pole and then on to Ellesmere Island in northern Canada. A total of 100 days on the ice.

The reliability of normal navigation methods was questionable. Proximity to the north magnetic pole made compass navigation almost impossible. Cloud made celestial navigation difficult. GPS was in its infancy then but the party did carry an emergency location beacon.

Information relayed from this beacon to UoS was uploaded as a digitalker message to UoSat Oscar-11 by the team at Surrey. This was in turn broadcast by Oscar-11 as it orbited the Earth and many schools tuned in each morning to read the location of the trekking party. I remember this being a very popular activity among my classes with students being lined up outside the electronics lab before class opened so as not to miss hearing the early passes around 8 am each day.

I still have the chart we made of the north pole area with stick-pins to show the progress of the ski party across the ice. Those experiences will live long in the memory of so many students around the world. Long live UoSat Oscar-11.

If you want to find out more about this rather special amateur spacecraft, Clive Wallis G3CWV has recently established a web site for matters concerning UoSat Oscar-11. Look for it at *http://www.users.zetnet.co.uk/clivew/*.

After ground control operations that took place during the third week of March, the 145.826 MHz VHF-FM beacon has been reported as transmitting normally. Telemetry shows the "S" band beacon to be turned ON. This beacon, along with the one on DOVE DO-17, has become rather important in recent times as many people gear-up for Phase 3D. The two beacons provide an excellent "live" test signal for "S" mode receivers and antennas at ground stations.

AMSAT-VK Pioneer Turns 90

Charlie Robinson, ex VK3ACR and now VK7KP, is well known to those VK amateurs who have been interested in satellite matters since the early days. Chas recently celebrated his 90th birthday and it was very pleasing to have him call in to the AMSAT-VK net on 80 metres on that very night.

Many will recall the broadcasts made by Chas when EQXs and keplerian elements were read out and diligently copied down by hand by amateurs all over VK. In those days, PCs were in their infancy and the Internet was unknown to the general public. Satellite passes were calculated using plotting devices like the "Oscar-Locator" or by extrapolation from a known equator crossing (EQX).

Chas kept the AMSAT-VK net going for a number of years before handing over to Graham VK5AGR. He was also one of the original AMSAT columnists for *Amateur Radio* magazine.

You'll not hear Chas on the satellites these days but he still takes a keen interest in satellite matters. He is hale and hearty and active on 80 metres with his other interests including computing, Internet, packet and digital imaging. Good on you, Chas. Congratulations on celebrating your 90th birthday in fine style.

Andy on MIR Space Station

Sporting the rather unique callsign VK5MIR, Andy Thomas has settled into the routine on the Russian space station and has been having regular voice contacts with Australian amateurs during his recreation time. Andy's pleasant manner and very clear enunciation make it a pleasure to exchange a few words with him.

National Co-ordinator
Graham Ratcliff VK5AGR
E-mail: *vk5agr@amsat.org*
AMSAT Australia Net
Control station - VK5AGR
Bulletin normally commences at 1000 UTC, or 0900 UTC on Sunday evening depending on daylight saving and propagation. Check-ins commence 15 minutes prior to the bulletin.
Frequencies (again depending on propagation conditions):
Primary - 7.068 MHz
(usually during summer).
Secondary - 3.685 MHz
(usually during winter).
Frequencies +/- QRM.
AMSAT Australia Newsletter and Software Service
The newsletter is published monthly by Graham VK5AGR. Subscription is $30 for Australia, $35 for New Zealand, and $40 for other countries by AIR MAIL. It is payable to AMSAT Australia addressed as follows:
AMSAT Australia
GPO Box 2141
Adelaide SA 5001
Keplerian Elements
Current keps are available from the Internet by accessing the AMSAT FTP site, *ftp.amsat.org* and following the sub-directories to "KEPS".

He has been in great demand during MIR's excursions over Australia. I can't ever recall having heard so much activity. This special event has meant that a lot of stations are trying for a contact, perhaps for the first time with an orbiting satellite.

Newcomers are urged to follow one or two simple rules. These have been well publicised on packet and in print but it won't hurt to reiterate them here:

Firstly, on the subject of calling, please realise that calling without first listening is unwise, and discourteous to all others trying to make a contact. Make sure you can hear Andy and then take the time to listen to what is going on. If he's in contact already, then do him the courtesy of allowing him to finish the contact before calling. If he says he's listening for a particular station and it's NOT you, then please don't call.

Secondly, on the wider scene, remember that you may only be able to hear activity within a 20 km radius. Andy can hear nearly all of Australia at the same time. A clear channel for you will probably not be clear for him. Once again, wait until he calls for another contact before transmitting.

Finally, if you are lucky enough to have a contact with Andy, the rest is in his hands. He may feel like a chat or he may want to make a few more quick contacts before "going over the hill". Please let him be the judge of that and, until the backlog clears, be content with one contact.

Yet Another "SPUTNIK" Planned

Who could forget the flurry of activity that resulted from the hand launching of the SPUTNIK replica late last year from the Russian Space Station MIR. As part of the preparations, TWO replica models were prepared and sent to MIR.

The good news, recently released by Miles Mann, is that the spare one is scheduled to be deployed from MIR in the latter part of this year. It will undergo an upgrade which will see the replacement of the battery and some circuitry added to allow voice announcements to be made in several languages.

You can be sure that this new launch will cause as much of a flurry among the amateur radio fraternity and among schools as did the first one.

What's Going on with OSCAR-10?

Strange things are happening on board the old flagship. Reports are coming to hand from various gurus that some unexpected events may have taken place on the ageing AO-10 spacecraft. Analysis of the beacon and transponder passband has led some to believe that the high gain downlink antennas may have been switched on but that the low gain uplink antennas may still be in operation.

Some months ago, the "Z" axis spin of OSCAR-10 (that's the spin that originally stabilised the spacecraft), dropped to virtual zero but it is thought now that AO-10 may be yawing around the "Z" axis in a large arc. This would account for the nulls that are observed as AO-10 "spins".

Some random FMing has also been observed and it was at first thought that this was happening in synch with the rotation but this has since proved not to be the case.

Summary: Your guess is as good as any at the moment but gradually a clearer picture will be built up as more observations are made.

New Israeli Amateur Radio Satellite Launch News

Speaking on behalf of AMSAT, Shlomo Menuhin 4X1AS announced that at long last, barring any major difficulties, the Israeli Amateur Radio TECHSAT II, produced at the Technion University in Haifa, will be launched in late April or early May 1998 (that means it should be imminent as you read this!).

The satellite will sport a packet radio store and forward mailbox operating at 9600 baud. It will be launched from Kazakhstan, and Shlomo will be on hand to represent AMSAT. This information came via Assi Friedman 4X1KX. **ar**

VHF/UHF
An Expanding World

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All times are UTC

Andy Thomas VK5MIR Active from Space

Many stations have now worked **Andy VK5MIR** on various passes of the MIR space station, including some mobile stations and those with low power. The VK5s and VK6s seem to have been particularly successful.

I worked him using my stacked vertical antenna at 0948 on 21/3 and his signals were S9+40 dB during the contact on 145.985 MHz. I understand Andy runs about 10 watts of FM. With his signal so consistently strong, it emphasises the value of a VHF signal on a non-obstructed line-of-sight path over a few hundred km.

The E-mail VK-VHF Reflector

Andrew Davis VK1DA makes a few comments which are worth digesting. He writes: *"I am sorry to see personal comments being made on this list again. Ladies and Gentlemen, please keep personal comments off this list. They are not constructive; it only demonstrates how easy it is to fire off something in the heat of the moment, but it stays in all list members' e-mail in-boxes forever. You will be remembered for the words you write here. You will equally be remembered for your restraint, which has been shown by hundreds of list subscribers on this issue.*

"I also recommend great caution when accusing people of personal faults when attacking them for their views. When I stated my logic in opposing a certain licence requirement, one reader accused me of finding the test too hard. It turned out that the test I passed (in 1964) was actually a more stringent one than the test passed by my accuser.

"For more on this subject, read almost any of the Personal Usenet FAQs; they are probably still to be found at the amazingly descriptive address of ftp.rtfm.mit.edu. Soapbox mode off!"

Thanks Andrew. Personally, it is my view that those operators prone to "sounding off" at a seemingly annoying comment, or action, would do well to delay any replies for at least 24 hours in order to cool off. This gives time for a considered and reasoned comment or opinion, for the betterment of their own image and that of amateur radio in general. It is a well known fact that, in whatever direction mud is being flung, some will stick!

Personal derogatory comments will never appear in these columns. Those finding a need to be so involved would do better to send an e-mail to the person/s concerned and keep it off the Reflector. The majority of Reflector users don't want to hear about it or become involved.

The Eucla Operation

I had expected now to have full news of the DXpedition by amateurs of the **Northern Corridor Radio Group** to Eucla for the John Moyle Field Day on 20/21 March, but so far only sketchy reports.

Generally, for most areas band conditions over that weekend were atrocious, with high temperatures and little or no enhancement of signals. I worked **VI6EWT**, the expedition station, at 2220 on Sunday (20 March UTC) on 144.120 at 5x5. I could hear them at 5x3 on 432 but they could not hear me. By the time their signals had arrived at Meningie they were rapidly fading and did not reach Mount Gambier. They were quite strong in Adelaide with David VK5KK and Phil VK5AKK reporting contacts. From his usual mountain site, Phil apparently worked them on 50, 144 and 432 MHz.

Unfortunately for **Alek VK6APK,** who had been at the forefront of arrangements, he had to withdraw at the last moment from the expedition due to sudden illness. Despite his obvious disappointment, it was the wise thing to do, as Eucla is too isolated to go there in an unwell state.

New Records

By packet, **John VK3KWA** has advised of new record claims as follows:

Lyle VK2ALU has claimed a new 1296 MHz EME record for a contact made by VK2AMW in 1985 - probably the longest ever delay between contact and record claim!

The record is now VK2AMW - G3LTF 02/03/1985 16978.5 km.

A claim from VK6KZ and VK6BHT for a new VK6 and National 24 GHz record on 10/01/98 of 142.7 km has been processed.

New mobile records for 1296 MHz: VK3XPD/m to VK5DK/p 10/03/98 380.4 km. VK5NC/m to VK3KWA 10/03/98 388.2 km.

John VK3KWA also supplies these further details of 1296 MHz activity on 10/3 when the above records were established.

Trevor VK5NC was up to S8 at 0945. He and Colin VK5DK then went to Blue Lake, Mount Gambier while Russell VK3ZQB went portable near Port Fairy, and Alan VK3XPD went to Surrey Hills. VK5DK/p worked VK3KWA at S8, and VK3ZQB/p worked VK3KWA and VK3KLO with one watt. At 1138 VK3XPD/m worked VK5DK/p for a new mobile record of 380.4 km. At 1235 VK5NC/m worked VK3KWA for a mobile record of 388.2 km. VK3ZQB, VK3XPD, VK5DK and VK5NC also worked each other on 10 GHz.

Six Metres

John VK4FNQ says that the band has been quiet with some TEP. On 27/2 he heard HL1LTC at 0630, but faded soon after. On 3/3, between 0545 and 0641, John worked 30 JAs in districts 1, 2, 3, 4, 5, 6 and 7, with most signals 5x9.

From **Scott VK4JSR:** The JA DX Cluster reported that on 11/3 at 0348, Wally VK4DO worked KH7R (Kure Isl) at 5x9, for the first KH7 contact this cycle.

On 12/3 **John VK4FNQ** worked KH7R at 0410 3x1. John's antenna rotator is faulty so he used a vertical antenna. Also managed a 5x5 contact with KF4GMH at 0530. BYTV was in at 0345 very strong and making life difficult on 50 MHz. Also worked six JAs to 0555, so the path was there.

From **Steve VK3SIX:** On 12/3 from 0840 to 0901 T88IY on Palau Isl working JAs, also V73AT to JA5FFJ at 0753. 13/3: 0428 VK4APG to JH0BQX, 0520 VK4PU to JH6ETS, 1040 VK4KJL to JH0BQX. The JAs seem to be climbing over one another on 50.110 to work stations, but the above VK4s were well away from 50.110.

On 19/3 **Steve VK3SIX** reported the first JAs for the equinox into VK3. He worked JA1, 2 and 5 for five CW contacts between 0453 and 0640, with signals to 559. Northern TV observed from 0200 to 0700.

From **JA Cluster** 20/3: Stations worked/heard in JA between 0520 and 1724 included VT98LC, 9M2NK, YC0UVO, BV2SR, VR2IL, T88IY, VK8MS, VK8RAS/b, VK2FZ/4, VK4ABP/b, so there are a few active countries around.

Ron Graham VK4BRG said that on 22/3 at 0450 NH6YK in Hawaii was worked by VK4DO, VK4RO and VK4FNQ. Signals averaged about 5x5 for the duration. Both KH6 beacons (50.061 and 50.065) were audible at this time and for some 15 minutes after. Ted NH6YK left on 23/3 for Midway, where he says he will be active on six metres.

23/3: Via TEP from 0410 to 0509: VK3SIX to JA9SSB, JA9BHZ, JA2IGY/b, JH0OME, JA9SSB, JA9BHZ, JA1AUD, JH1WHS, JE1TGN, JS1KQN, JG1ZGW, JA7ZMA/b, JA7SWZ; VK3AMK and VK2QF to JH1WHS.

Gerry VK4HT reported hearing KH6HI/b 559 on 23/3 at 0640, and on 24/3 at 0800 both KH6 beacons were S1. No amateurs heard or worked.

Steve VK3SIX reported that the first true night-time TEP was observed in VK2/3/5 between 0840 and after 1100 on 25/3. Unfortunately, P29KFS remained on 50.110 from 1045, creating a huge JA dog-pile and blocking out the weaker VK3 signals. Steve worked VK2QF, VK3ALM and VK5ZBK. There were strong ten metre SSB signals from Europe also.

He also reported a massive TEP opening from to 0425 to 1036. He worked JA1 to JA0 areas with more than 40 contacts, either CW or SSB, many at S9.

Included in his long list were these specials: V73AT worked many JAs as did the Hong Kong VR stations. 9M2 TV was there, plus numerous Asian TV off-sets around 49 MHz.

At 0420 Steve heard KL7/DARN 49.635 (BP51 Dual AU Radar UAA Anchorage AK 529 from 62 North) for 15 minutes. Deliberately called and worked on 50.125 but only got JA8s.

JAs were working NH2C, 9M2TO, N7ET/DU7, VR98LC. All JA beacons were audible. V73AT heard VK4RGG/b 50.058 at 0442. VK2QF, VK2XMQ, VK3AMK, many VK4s, VK5ZBK were working JAs.

At 1030 heard VK8RAS/b on backscatter. Worked Jeff VK8GF in Alice Springs by scatter mode until 1120. ZL4AAA worked JA1RJU at 0413 SSB. ZL TV at 0430. JA3EGE copied VK6RPH/b 50.065 at 0614. VK6IP, VK6ET and VK6ZPP worked JA3s.

Scott VK4JSR said that the HS1 station claimed to have been worked by some VK4s during the large opening, was in fact DS1, a prefix for Korea. He said that amongst the melee on 50.110 yesterday these countries were heard - JA, VR2, KF4, DS1, and FK1 (backscatter from TEP).

John VK4KK said his list consisted of KF4, KH7, KH6HI/b, V73, DS1, VR2 and JAs, all from 0300 UTC onwards.

Plans for Autumn

Steve VK3SIX/KL7SIX is to return to Alaska on 21/9/98. He plans to concentrate on working Europe over the Pole and down to Oceania in December. Station and antenna will reflect this pursuit. Will be either modifying HF amp or looking for a suitable (1 kW) local amp. Antenna will be modified equipment already available locally. Would like some ideas and strategies as to how to do this and needs e-mail addresses and telephone numbers from EU and VE stations. Steve Gregory - Postal: HC 33 Box 2966 Wasilla AK 99654-9720; Phone: 1 907 373 5435. 73 and feel free to pass this on as I will need the co-operation of all concerned to make this work, I just hope the Cycle is kind to us all.

Steve VK3OT provides the following list courtesy of Mike Greenway; it is the list of stations who worked P43AS during the opening on 26/3/89. QSL cards are available on production of log entry and two IRCs from Thomas Greenway K4PI, 4055 Kings Highway, Douglasville, GA 30135.

VK2ASZ, VK2BA, VK2FLI, VK2JSR, VK2MQ, VK2QF, VK2VC, VK2XJ, VK2ZXC, VK3AKK, VK3AMQ, VK3AMZ, VK3AUI, VK3AUU, VK3AZY, VK3CDI, VK3DU, VK3DUQ, VK3DUT, VK3KAQ, VK3LK, VK3NM, VK3OT, VK3TAF, VK3WN, VK3XQ, VK4BRG, VK4DDG, VK4DK, VK4DMI, VK4KJL, VK4NJO, VK4ZAZ, VK4ZNC, VK5AMK, VK5AYD, VK5KK, VK5LP, VK5NC, VK5NY, VK5ZDR, VK5ZK, VK8GF, VK8ZLX, ZL4KB.

Juan P43AS is now a silent key and Tom has kindly offered to make up some cards for those who need them.

There were some contacts made with VK/ZL later in the weekend and he also worked a number of North and South Americans and Europeans; so here is your last chance to confirm this station if you haven't done so.

Two Metres and Above

Gordon VK2ZAB reported that propagation on two metres SSB was enhanced on 10-11/3 by the presence of an intense coastal duct. At 0740 on 10/3 signals were 5x9+ both ways between Warren VK3BWT at Mallacoota and VK2ZAB (outer Sydney) over the 450 km path. Warren could also hear the VK7 beacon, but no contacts. VK2ZAB could not hear the VK7 beacon. Later in the evening Sydney stations VK2FLR and VK2DXE (2 W) worked VK3BWT.

VK3BWT later worked Andrew VK7XR and was in contact with him the following morning, about 2100 10/3, when Jack VK2AAS/p at Molly Mook heard VK7XR. So far this is as far north as the VK7 signals have been heard. That evening about 0915 (11/3) VK3BWT worked Ray VK2BRG at Coffs Harbour with 5/5 signals over the approx 850 km path.

At about the same time VK3BWT also worked Ross VK2ZRU in Sydney with 5x9 signals both ways. However, Guy VK2BBF at Springwood, 60 km north west from Sydney, could hear VK3BWT at S1 on the direct path. Turning his antenna from 193 to 105 degrees resulted in a 5x5 contact with VK3BWT.

This phenomenon was not evident to Keith VK2JY at Mt Riverview which is in the same general area as Springwood, although a few kilometres closer to Sydney and somewhat lower in altitude. Keith worked VK3BWT with signals rising to S9 shortly after the VK2BBF contact.

It appears that the duct was low and hugging the coast. Guy was unable to access it directly but achieved a nearly 90 degree bend in the propagation path by scattering (reflection) from a large object which was in the duct. Candidates for this would include the Sydney Harbour Bridge and the Centre Point Tower, both on the 105 degree bearing.

At 1127 on 11/3, VK1ZQR was 5x8 in Sydney to VK2ZAB. Bob in Canberra is behind a hill in relation to Sydney and signals are usually close to the noise level. At 2100 on 11/3 VK3BWT was still 5x9 at the VK2ZAB location. He is normally S2-S3. There may be more to come.

From **Wally Howse VK6KZ: Wally Green VK6WG** reported that on 18/3 there were strong signals on 144 and 432 MHz during the day, evening and next morning (UTC) from Mt Gambier and western Victoria. He worked Col VK5DK in Mt Gambier and a number of VK3s. No sign of signals from Adelaide area in Albany. No signals on 144 MHz from VK3 or VK5 in Perth.

In conjunction with the east-west signals, good signals prevailed across Bass Strait on 18/3. According to Ron VK3AFW, on two metres, between 2110 and 2130, Andrew VK7XR was 5x9 as far north as Wedderburn to Des VK3CY. Six metre signals also strong. John VK3KWA intermittently copied VK7XR on 1296 MHz but no contact made.

Gordon VK2ZAB said that resulting from his last posting about ZL two metre beacons being heard in Sydney, the following contacts took place: 20/3: VK2BBF 1900 ZL2VAL, 1904 ZL2TAL; VK2ZAB 2101 ZL2TAL, 2120 ZL2VAL, 2127 ZL2TE and 2346 ZL1IU. Signals from S3 to S1.

This may be as late in the season as we have ever seen a duct across the Tasman, at least in VK2. However, on making this comment to Nick ZL1IU, he replied that it may be so but that on 9/4/94 he worked into VK4 via a duct.

John Moyle Field Day

Ron VK3AFW said a number of VK3 Field Day portable stations were out and about; 50.200 was busy with stations QSYing up. 144.100 and 432.150 also very busy with some QRM on both.

Several new grid squares were active, but no signals coming from the west. Ron said he worked the portable station at Eucla but (hush!) on 20 and 40 metres. Ron is off six metres temporarily - his antenna has blown down! What! Again Ron? ... VK5LP.

Norm VK2XCI, the Voice on The Edge of The Outback, at Mount Hope, comments on the John Moyle Field Day: "*A slightly*

more successful field day than last, but once again physical conditions were very tough. After four warm days, cool nights and calm weather, Sunday 22/3 was hot, windy and dusty! Started at 0600 local and by 0800 it was 28 degrees C with a strong gusty NW wind and much raised dust. I gave up at 0930 local ... 38 degrees C and 35 knots ... when the ute door blew shut and jammed my fingers. Enough already!

"Never mind, it was worth it. Thanks to the VK1 mob who finally came good. I could hear the Nimmitabel two metre beacon all morning but no sign of VK2TWR. Where were you Rod?

"So I now have just less than a year to build an air-conditioned wind/water/dust proof portable station with a self erecting mast, hot and cold running water, comfy bed and a well stocked fridge, all mounted on a 4WD with 240 V generator set, GPS, Satphone and cable TV! There's work to be done."

Ross VK2DVZ said that the Taree and District AR Club Inc participated in the 1998 John Moyle contest, in the 24 hour section. They used Blue Knob, a vantage point over 1000 metres ASL with a 360 degree view and takeoff. Three members made the trip.

At first they had problems with wildly fluctuating 240 volts AC from the alternator, in turn causing the 12 volt battery charger to demand a respite and certainly the solid state equipment didn't like it. Replacing a faulty 12 volt battery brought relief to all, equipment included. The alternator ran without fault for the full 24 hours.

"We worked HF DX until the early morning, then after four hours sleep we were on air before dawn.

"We watched the very visible inversion layer out over the coast, some 50 km to the east on both the Saturday afternoon and Sunday morning, but to no avail - no ZL signals to be heard at our prime location, despite all the reports from up and down the coast.

"Interim results about 4200 points. HF: about 90 contacts; 144: 137 contacts - about 55% exceeded 150 km, therefore 30 point contacts; 70 cm: 78 contacts - about 48.5% exceeded 150 km, 30 points each.

"On VHF, our most distant contact was 702 km with Warren VK3BWT at Mallacoota, twice on two metres. We worked Rod VK2TWR on a few occasions on both 2 m and 70 cm at 654 km (one watt both ways on two metres for one of the contacts was still about S3 at my end, same at Rod's).

"We were very pleased to work VK2EU/p SE of Canberra, in the ranges beyond Captains Flat, and VK2LO/p at Murrumbateman, together with (my first) VK2XCI/p near Mount Hope.

"A G5RV antenna used on HF, a 12 element DL6WU design Yagi on SSB and a Slim Jim for FM on the 2 m band, and on 70 cm we used a 15 element DL6WU design Yagi for SSB and a little eight element Maspro Yagi, vertically polarised, for FM. 80 watt solid state PAs on each of the 2 m and 70 cm bands.

"The weather was very hot on the coastal plains, but very pleasant on Blue Knob. Out came the wind jackets and long pants for the night session, it blew all night - all the while it remained a hot night down below us on the low country.

"We worked stations in an area bounded by Coffs Harbour to Mallacoota, Captains Flat, Canberra, Tottenham, Mount Hope and across to Gunnedah. I heard one VK4 very weakly in the noise, but not positively identified. Coffs Harbour was the cut-off point to the north this year."

The Western Australia Journey

Alan Devlin VK3XPD sends details of his recent sojourn into Western Australia in the hope of exploiting the often enhanced signals during February.

To summarise, *"The event was a dismal failure for the effort expended. There was simply no microwave propagation across the Great Australian Bight during the four weeks I was in VK6. There were a couple of brief two metre openings, but the best that I personally achieved was an 1800 km contact on 23 cm from the QTH of Bill VK6AS in Esperance to Trevor VK5NC in Mount Gambier. Apart from that there were several other short range contacts in VK6 on 2, 3, 5 and 10 GHz. One amateur is Wally VK6WG who at 87 years has just completed his 5 GHz unit with a little help along the way. It was also great to meet up with those other amateurs in VK6 with similar interests - thanks to Wally VK6KZ for making the arrangements."*

Aircraft Enhancement Net

Chris VK1DO sends the following information: *"Due to the astonishing level of activity out of VK3, VK1 operators believe we are congesting the 144.200 net, probably preventing more significant contacts of the 800 kilometre plus variety and generally slowing up weekend operation. The rapid fire nature of the relatively easy VK1 to VK3 contacts, together with the veritable plethora of VK3s, tends to result in the preclusion of Sydney to Melbourne attempts.*

"As of the weekend, Saturday 14/3, we will only operate on 144.200 to beam north and we will be looking for VK3s on 144.250. The fifty kilohertz separation ought to permit stations in the same metropolitan regions, within reason, to co-exist with contacts simultaneously on both nets.

"I hope that by freeing up 144.200, many more contacts that might occur between Sydney and places north, and Melbourne and surrounds might be facilitated. The variations in path over these longer distances are more complex and not only need more effort, but perhaps the acceptance of those on the net of the more involved nature of establishing a contact.

"Suffice to say, I hope this experiment can be supported by all operators in an aim to benefit everyone. Please remember to inform your fellow operators to ensure their efforts are appropriately directed and furthermore, they do not conclude from observing 144.200 that there are no VK1s and conversely, look more energetically and patiently for distant signals, etc."

Apropos the above, Gordon VK2ZAB writes: *"The plan was put into effect on Saturday 14/3 so it has been in operation for two days at this writing. It calls for VK1 stations to use 144.25 MHz and for VK2 stations north of Canberra to use 144.2 MHz as usual.*

"It worked fine for me. Although I was not overwhelmed by a plethora of VK3s clamouring to work into Sydney, I did contact a few with somewhat more ease than had had been the case previously.

"The potential to make more VK3 contacts is certainly there as the Mt Anakie beacon is frequently audible here for periods of many minutes at levels up to S3 from 8 am until after 9 am local time.

"It may be that some people do not know that aircraft reflections do not peak for location A at the same time as they do for location B. Therefore, the procedure is to point your beam at the location you wish to contact and, if you can't hear other stations, call, call, call. Frequent short CQ calls.

"The aircraft will fly into the area of mutual radio visibility and contact will be made. Do not point your beam where you think the aircraft may be and do not rely on it being there at the same time as it was last week. Remember, if you can't hear anything, call."

Closure

Closing with two thoughts for the month:

1. Old age is when you know all the answers, but no one asks you the questions and,

2. Some people make it happen, some people watch it happen and some people say, "What happened?"

73 from The Voice by the Lake.

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Silent Keys

Due to space demands, obituaries should be no longer than 200 words

The WIA regrets to announce the recent passing of:

B (Brian)	DARRAGH	VK2BR
H S	WILSON	VK6HW
L W (Len)	EDWARDS	VK7LE

B L (Bruce) McCubbin VK3SO

This well known Melbourne identity was first licensed in about 1936. He had been an active member of the Eastern and Mountain District Radio Club and it was a rare occasion when he did not attend a meeting.

After Bruce announced plans to move interstate, he was made a life member of the EMDRC in October 1997 for long and active service.

His brother-in-law, Bert King VK6EK, in assisting the club's committee to research Bruce's history, provided an interesting insight – an edited version follows:

Bruce was born in or near Daylesford on 21 May 1916, and his family moved to Fitzroy when he was about five years old.

One day he found a battery and experimented, first making sparks with a piece of wire, then light with a globe, later acquiring a Ford ignition coil and his interest in electronics grew.

In his early working life he was employed by several local radio firms, including Radio Corporation in South Melbourne which later became Astor.

He began a long career at the State Electricity Commission starting with stamping serial numbers on meters, and then went on to testing. calibration and reading of meters.

Following the outbreak of World War II he joined the RAAF reserve as a wireless operator and rose to the rank of Warrant Officer.

After military service he eagerly resumed his hobby of amateur radio.

He managed the WIA Victoria office, when it was in Brunswick Street, Fitzroy, and for many years served with distinction as a dedicated and knowledgeable volunteer.

Personally, when I last saw Bruce at his Burwood home just before Christmas, he was in his radio shack with a Morse key at one end of the bench, and a computer at the other.

I feel this memory best describes a gentleman who was equally at ease assisting a youngster on a repeater, as pounding brass with a long standing friend half way around the globe.

David Williams VK3KAB
Vice President,
Eastern and Mountain District Radio Club

Cyril Eakins VK6CN

VK6CN was one of life's quiet achievers. These obituaries often record life histories of well-known amateurs, prominent in the WIA, DXing, DIY and more. Cyril's callsign seldom appeared. Yet, for nearly fifty years he built finely crafted amateur gear till, like most of us, he fell for the charms of factory made sets. Even so, he continued to make those little ancillary items one couldn't buy in shops; not only for his own projects, but for many hams, family members and neighbours.

Cyril's training in pharmacy earned him a valued place in the army in WW2. At war's end he went back into "civilian practice" and for some years ran his own pharmacy at Kellerberrin. In recent times he took an interest in computers, packet and the Sunday morning 80-metre WIA News relay.

His work and a natural love of tidiness made him a perfectionist which showed in his hobbies, amateur radio and metalwork.

When you're a caring husband, father and friend and you spend a lot of your precious spare time doing things for others, there's not much time left to become famous. But well-loved and respected he certainly was.

QRT 25 March 1998. Sincere sympathy to Peg, Jill, Rex and families.

Harry Atkinson VK6WZ

Len Edwards VK7LE

We are sad to record the passing of Len Edwards, aged 81, one of Australia's radio pioneers, peacefully at home on Friday, 13 March.

Len, born on 29 September 1916 in Hobart, started out in the days when the Post Master General's Department provided technical facilities for the ABC and electronics personnel were known as mechanics.

During World War II, serving as war correspondent with the ABC Mobile Radio Unit in New Guinea Australia and, in 1946 in Japan, Len's invention of new lightweight recording equipment made it possible to record live action at the front for the first time. Len recorded from barges, sailing ships, corvettes, bombers, travelling jeeps, and right in amongst the fighting, surviving air raids when his equipment was less lucky.

After the war, Len designed high quality monitoring receivers for broadcasting stations throughout Tasmania, and the antenna/earth systems and internal receiving and transmitting equipment layout and interconnection for Australia's frequency measuring and monitoring station at Quoin Ridge, Hobart.

Privately, he found time to build and operate the first amateur SSB transmitter in Australia, track the first satellites and conduct research into effects of meteor ionisation on broadcast transmissions with Grote Reber, founder of Radio Astronomy.

His great love of the sea led him to found the Geilston Bay Boat Club in 1968. Many will recall him as a familiar figure at the helm of the *Marie Frances* or calling in to Hobart Radio.

Not content with retiring in 1973, his desire to build a better HF antenna for his boat created a new business, Moonraker Australia, where Len was active in research and development until the last.

He is survived by his wife Marie, son Christopher, and daughter Suzanne. His inventive spirit and kind nature will be sadly missed.

Christopher Edwards

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Technical Correspondence

All technical correspondence from members will be considered for publication, but should be less than 300 words.

Comment on "An SSB Product Detector for Boat Anchor Receivers".

(published on page 7 of March Amateur Radio)

I would not in any way criticise Mr Odell's quite delightful method of achieving SSB demodulation. His article is excellent.

But, I would question "WHY?"

I have been involved in so-called "Boat Anchors" on and off for some 40-odd years, and have repaired, restored, and operated many such devices, RA-17s in particular. In my opinion, the Racal RA-17, in its various models, is a good candidate for being one of the very best valve HF communications receivers ever, and when operated correctly, one of the best performers of all "Boat Anchors" for receiving and resolving SSB signals.

The SSB procedure, as I am sure you are aware, with the RA-17, is as follows:

Set up the receiver for the frequency of interest.

Set the IF bandwidth (selectivity) to 3 kHz.

Turn ON the BFO.

With the BFO tune (note) control, offset the BFO by 1.5 kHz ABOVE the IF centre frequency if copying LOWER sideband, and BELOW the IF centre frequency if copying UPPER sideband.

Do NOT make further adjustment to the BFO tuning, unless going to the opposite sideband. All further adjustment to resolve the signal is done on the main receiver tuning.

Check that the AVC response is set to LONG. Tune the receiver normally across the band, and you will find that it behaves just like your modern solid-state rig.

The above assumes that the radio is correctly aligned, particularly the IF, detector and BFO. I suspect Mr Odell's RA-17 has a problem somewhere.

The above technique works with all receivers, although with varying success, as many older types, as Mr Odell correctly states, just do not have sufficient BFO injection; a prime example being the immortal RCA AR-88. When this problem is encountered it is necessary to reduce the RF gain in order to cope with strong signals. This can also lead to the need to turn OFF the AVC.

A further complication with some receivers is if they switch, on some bands, to opposite-side local-oscillator injection, thus inverting the BFO frequency requirement. And, as well, there is the lack of frequency stability with many older receivers.

But a properly set up RA-17 does not suffer from these problems. Yes, Racal made SSB and ISB adapters (I have owned and used them) but for the type of operation that we, as hobbyists, are involved in, it just isn't needed. In fact, it seems they are, and were, an unnecessary complication.

Speaking with ex-military operators, who spent many long hours monitoring other folk's signals, the general comment is "*Didn't need it - didn't use it*".

Surprisingly, a couple of other British "Boat-Anchors" are excellent SSB demodulators; the Murphy B40D and the GEC BRT.402 series (on the lower HF frequencies) come immediately to mind. The well-known American Collins 51J-4 and R-390-A are not quite so tractable; but, again, using the above technique, they will do the job.

Incidentally, the story of the RA-17, as the first commercial use of the Wadley Loop, is a fascinating and much misunderstood tale.

We must never forget that the Wadley Loop, invented in wartime England by South African, Dr Trevor Wadley, was the first practical self-correcting, drift cancelling loop and, as such, was the seed invention which led, via a tortuous path, to the phase-locked loop, and all we do in communications today.

And please, never call it the "Barlow-Wadley Loop". Barlows in South Africa simply used the technique in that very nice portable receiver and popularised it, as that was the first (I think) civilian/domestic use of Dr Wadley's clever little circuit. Then Kenwood, and Yaesu, got hold of it, ie R-1000, FRG-7, FRG-7000 et al, all Wadley Loop receivers and you know the rest.

Again, well done Mr Odell, but I wonder if your RA-17 is not performing quite as it should?

John Tuppen VK6XJ
PO Box 522
Mundaring WA 6073 **ar**

John VK6XJ alongside a rack-mounted part of his collection.

You're Never Too Old

Congratulations to British amateur Les Breeze 2E1FXS who, at the age of 92, has become the oldest person to pass the five words per minute Morse Test. Les, who is blind, was assisted in his task by his wife Doreen who, though not an amateur, learnt the Morse characters in order to help her husband. Les has an HF rig specially adapted for the blind, which is fitted with a voice synthesiser to announce the frequency in use. He now plans to gain the full class A licence.

(News courtesy of the Radio Society of Great Britain)

Over to You

All letters from members will be considered for publication, but should be less than 300 words. The WIA accepts no responsibility for opinions expressed by correspondents

Andy Thomas, South Australian

I query and take issue with the wording used by the Guest Editor Jim Linton VK3PC in his editorial comment in *Amateur Radio* April 1998 where he uses the term "SO CALLED" South Australian Astronaut in referring to Andy Thomas VK5MIR.

The rest of the editorial is well written and indicates the excitement that obviously exists even outside of his "home state".

Andy is very definitely a SOUTH AUSTRALIAN.

He was born in the Memorial Hospital, North Adelaide, (as was also his father) in 1951. He attended St Peters College Adelaide and also the Adelaide University.

Andy is the Great Great Grandson of F G Waterhouse who was the first curator of the South Australian Museum. On his mother's side he is related to the well known explorer Giles and was descended from original European settlers who arrived in the state on HMS Buffalo in 1836.

In 1996 the Adelaide "Advertiser" newspaper voted him as South Australian of the Year.

Andy is an Australian citizen although he does carry dual citizenship which is a requirement as a result of his chosen career.

His family are resident in Adelaide and, as his father succinctly put it, "Home to him is Adelaide."

I believe that he can truly be said to be a "South Australian Astronaut", not merely "so called".

Ian J Hunt VK5QX
8 Dexter Drive
Salisbury East SA 5109

Amateur Radio. Helping our community.

Future of Amateur Radio Service

Firstly, let me thank all involved with the production of *Amateur Radio* magazine; it is, in my opinion, second to none!

Much has been reported of late about the future of the Amateur Radio Service and I wish to share a few of my collective thoughts on this issue with others. Not having (or really wanting) Internet access, I am unaware of what is reported there (on the 'net) so *Amateur Radio* letters are by no means a second best.

The old phrase "Use it or lose it" immediately comes to mind. If we as amateurs want to demonstrate to the ACA (Australian Communications Authority) that all our band allocations are justified we must populate them with contacts!

Some simple ways of doing this, as I see it, are:

Get off the Internet, it's a bore!

Read the "Amateur's Code" in your ARRL handbook.

Give the passer by a contact as he/she calls on your local repeater. We all like the courtesy of a reply as one moves through another area in the mobile.

Give away your old redundant equipment; eg, that unused two metre rig in a box somewhere will be a contact for many on your local repeater in the hands of some less fortunate operator than yourself.

Sell your redundant gear to support DXers. Remember DXpeditions are no glory trip but a big impost on DXers' hip pockets. So, if you want a nice QSL for that far off Island, help them put it on the map, perhaps for the benefit of others if you have worked it previously.

Support your local club and the WIA. In this time of repression of "Unionism" the group approach is the only voice that will be heard by the ACA when it comes time to sit around the negotiating table.

Operating a minor sideline business to a farm, I have run a promotion that has joined new members to the WIA. Simply purchase a certain value of goods and receive a membership form with cheque for one year's membership.

I challenge other businesses to do the same, especially those that have a "vested interest" (as mine does not), in the survival of amateur radio.

73 and good DX in cycle 23.

Neville Mattick VK2QF
"Blackwillow"
Hargraves NSW 2850

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WIA Divisions News

VK2 Notes

Elections Over!

Most members of the NSW Division should know by now the outcome of the VK2 Division elections which culminated in the AGM held on 18 April. For the elected Board, many discussions are underway as now is the ideal time to consider our future, in the NSW Division anyway. As you probably are aware, there were 10 nominations for the VK2 Council and next month I will give you the full line-up, names and assigned portfolios of the Directors. You can be sure that the same dedication and attention to members needs will be delivered during the coming 12 months.

Federal President

Congratulations to Peter Naish VK2BPN who was elected Federal President of the Wireless Institute of Australia. It is believed that this is only the second time a VK2 member has held the position in the 88 year life span of the Institute. The last occasion was Bill Moore VK2HZ who served in the position in the period 1935-1938. Peter tells us that he is *"delighted and honoured to have been elected to the position"* and will give of his best. Certainly, we know that is true, Peter! I am currently working on a full profile of Peter for the next edition of *Amateur Radio*. Once again, Peter, congratulations on behalf of the VK2 Division.

Annual Report

Congratulations and a big pat on the back for the people involved in the production of the VK2 Division Annual Report which went out with the ballot papers prior to the election. The document has received many favourable comments from the membership for its compilation, design and production. Those who were involved will know who I am referring to, so please, take a bow.

Trash & Treasure

Council has made a decision that there will be two regular Trash and Treasure events held at the Dural transmitting site, north-west of the City of Sydney. It was figured out that, while people really enjoyed going along to these special days in the beautiful bush surroundings of the site, we needed to set a regular timetable so people would know when the Dural days would be held for the coming 12 months. The Dural days will be held in March and November, with the other four events being held at Amateur Radio House at Parramatta.

Just a reminder that Trash and Treasures are held on the last Sunday of odd-numbered months of the year. If the date is altered for some reason, for example Easter, the information will be mentioned in the VK2 broadcast or through the VK2 Notes.

VK2RSY Beacon on 23 Centimetres

The 23 centimetre beacon at Dural, at the time of writing, is out of service while consideration is given to frequency stability. There is a lot of multiplication from the crystal to the output stage, based on technology current at the time of its construction.

If you are interested in the frequencies above 23 centimetres, and as VK2RSY is also licensed for that part of the spectrum, we are inviting you to express your willingness to provide and construct beacons at 13, 9, 6 and 3 centimetres. Please contact the Dural Committee via the Divisional office at Parramatta.

Change of Date for the Conference of Affiliated Clubs

On the recommendation of Affiliated Clubs Officer Ken Westerman VK2AGW, it has been decided that the Affiliated Clubs Conference for 1998 will be held at Amateur Radio House at Parramatta on Saturday, 13 June 1998.

This has changed from 16 May and has been necessary because it was originally scheduled too close to the AGM and the first meeting of the newly elected Council. If you wish to attend, agenda items and names of intended delegates are required at least two weeks prior to the conference. There will be lunch and dinner at a moderate cost, which will be advised. Coffee and tea, plus biscuits, will be provided. For further information, contact the VK2 Divisional office. The conference will begin at 0900 local. Please arrive at least 15 minutes prior to this for registration.

For more information, contact the office or any of the Councillors. We will be only too pleased to hear from you. If you would like to get in touch with an individual Councillor, just contact our Divisional office and it will be arranged. Our freecall phone number is 1 800 817 644 and our address can be found on the WIA Divisions' page. If you are addressing e-mail to the office, please do so at *vk2wi@ozemail.com.au*. There'll be more to report next month, but if you have anything you would like us to include as VK2 news, send it to me at PO Box 82, Springwood NSW 2777 or by e-mail to *dthom@penrithcity.nsw.gov.au*.

David Thompson VK2NH

VK5 and VK8 Notes

Still That Time of Year

As I write before the VK5 AGM, it is not possible to advise who will be on Council for the coming year.

A full report on the Federal AGM has not yet been provided to Council; but some details are available.

Firstly is the appointment of Peter Naish VK2BPN as Federal President. Peter has been a Director and Secretary to the Federal body and is experienced in the workings of the organisation.

I spoke with him, extending congratulations of the Division on his election, and told him we look forward to renewed activity on a Federal basis, particularly that members in general are kept well informed as to what goes on within the organisation. I expressed my personal concern that the WIA should be seen as being honest and open in its activities.

My feelings about this are well known. Recently, a South Australian Judge, John Sulan, commenting on a case said, *"Unless the public and business can trust each other the whole fabric of our society is at risk"*. I believe the same applies to any organisation and its members. It seems this has not always been the situation in the WIA.

A letter was received from our unsuccessful candidate, John Nunan VK3IC, thanking us for our confidence in proposing him for the position. We are grateful for John's agreement to stand for election and certainly should keep him in mind for any future position.

Martin Luther VK5GN was elected as one of the Federal Directors. He is recognised as being very experienced in matters of management. We look forward to the results of his informed and effective methods.

Details of other appointments made at the Federal level will be provided to the coming Council Meeting, the next General Meeting and through the Sunday broadcast facility.

Exploits of Andy Thomas

As Andy Thomas VK5MIR is South Australian born and bred, we have been keeping a close interest in all that he does.

It is interesting to note how contributions can be made to the community in general through amateur radio activities. Here are

details of one such contact involving Andy VK5MIR.

This was with Wolf VK5AXN who is a member of the South Australia Police and involved in communications in that organisation.

On a regular basis, an operation has been run in this state involving taking groups of young offenders into the Flinders Ranges area to provide them with a unique experience.

Wolf thought that Andy Thomas would represent an extremely good role model and if he could have Andy speak to them it would be an occasion they would never forget.

Here is the information sent by packet radio to brief Andy on MIR.

"Operation Flinders Foundation is a project to rehabilitate young offenders. They are young boys and girls aged 13 to 18 sourced from around the State. They walk 120 km over 8 days carrying all supplies. Each group has a Police or Army leader and 2 counsellors.

"On the way they carry out specialist activities such as abseiling with Police STAR Division, raft building and meeting local Aborigines. This exercise includes 7 teams with a total of 58 kids. There are 35 field staff which includes Commander, team leaders, councillors, communications by SAPOL Radio Section, medics and cook.

"Headquarters is at Moolooloo Station and the Operations Area covers 250 square kilometres. At the time our contact takes place, the kids will be feeling very sore and tired and some will want to quit and go home. This will probably be the hardest thing they have done in their lives. At the conclusion of the trip about 75% of the young people will make a change to their lives. Some won't want to leave.

"It is planned to make contact with you from a position next to the cairn which commemorates the epic journey made by John McDouall Stuart and his brave men. The cairn names the explorers and especially your Great Great Grandfather, F G Waterhouse.

". . . . . your voice will be relayed to the teams as it happens. A few words of encouragement to the kids and perhaps some advice on how to face and deal with adversity might be worthwhile. I think the impact of your voice coming from MIR would be very significant for the kids. (It will not be possible for the kids to reply)

"Your path over us takes about 10 minutes. Your Great Great Grandfather took 9 months to travel to the North and a further 5 months to return home!

"Moolooloo was historically significant in that it was owned by the Chambers Family who were primary sponsors of the expedition. Moolooloo was the staging post for the trip and Stuart and his party spent a deal of time preparing for the trip and resting.

"This radio linkup will bring together in a real sense the expeditions of 1861-62 and the space flight of 1998. It will have a major impact for the young people struggling physically and mentally with this most arduous journey.

"Incidentally, Stuart and his party left Moolooloo on 21st of January, 1861. You left on your journey onboard MIR on 22nd January, 1998, 137 years and one day later."

Andy spoke to those listening through the relay stations spread over the area of the exercise. He told them about difficulties he had experienced where he had wondered if it was all worthwhile. I have not yet heard all that Andy Thomas said, but understand that it was a very motivational effort. He reinforced the fact that striving to attain a goal is worthwhile.

Andy's Great Great Grandfather was a member of McDouall Stuart's exploration party as a naturalist.

I end these notes not knowing whether I will be in the same position on Council after the AGM or continuing with these notes in the future. I hope that what I have written during the last 12 months has been of interest.

My very best wishes to you all.

Ian Hunt VK5QX

VK6 Notes

Federal Convention

Congratulations to Wal VK6KZ on being elected as a new director of the WIA. I fully expect an era of enlightened leadership from HQ, and Wal's progress will be followed with some interest from the West, I'm sure! As a consequence, Wal will be resigning from the positions of VK6 Federal Councillor and VK6 President. News of Federal appointments, etc will be detailed elsewhere, but there have been some welcome outcomes on the various proposals put forward by VK6 Division.

New Proposals

1. In the April Notes, Chris detailed a proposal for the creation of an examination-free licence. It should be mentioned that the VK6 Council has not yet endorsed such a proposal and will be giving due consideration to it at the April meeting. It is likely that a possible route to achieving this objective will be through the updating of the current exemptions for the theory examinations. All those in favour, please attend!

2. There has been an interesting proposal posted to the vk-vhf e-mail reflector. The WA VHF Group is pushing the following position: *"That the WIA seek from the ACA. extension of operating privileges for Novice Limited and Novice licensees, so that they may use all modes currently available for HF Novice operation (in particular SSB) in the additional frequency bands 144.050 - 144.400 MHz and 432.050 - 432.400 MHz".* A small part of the justification offered is: *"Novices (and Novice Limiteds, in particular) are unnecessarily inhibited from developing expertise in the use of SSB, and weak signal work, on VHF/UHF. This will be particularly frustrating for newly licensed Novice Limiteds in remote areas. In many parts of the country, activity on the 'low ends' of 2 m and 70 cm could do with a boost, benefiting other licence classes as well".*

And further: *"From having spoken with a number of young UHF CBers, it is apparent that there is considerable interest among them in working tropospherically enhanced paths."* Also: *"DXers are not catered for by the current Novice Limited licence".*

Speaking personally (and admittedly as one who lives just out of reach of the City repeaters), I have to say that this is one of the most enlightened proposals I have come across in some years. If endorsed, it has the potential to be responsible for recruiting many new amateurs to our ranks. As such, I believe it deserves our full and immediate support.

Operating

I am overjoyed to report that recently I was lucky enough to talk to Dr Andy Thomas VK5MIR three times in three days. On the last occasion I made a mobile contact while I was driving home with the weekly shopping! Andy was easy to talk to and quite chatty; certainly he seems to enjoy talking to Australians. Give it a go before he comes down!

On a sad note, Don Graham VK6HK has advised that there is another silent key. Cyril Eakins VK6CN died on 25th March after a period of ill health. Our sincere condolences to all family and friends.

From the Minutes

Feb Meeting: Conference of Clubs. Consensus was that this meeting was well worthwhile, and the action points flagged in the Conference minutes, are proceeding. On a negative note, the comment was made that it was a pity that there had not been more participation from the country.

Mar Meeting: There had been a summary of 38 motions to be presented to the Federal Convention, distributed on the packet network and on the News Broadcast. There was some discussion about the representation of Clubs in feeding matters for Federal attention.

Reports: The Div was still in the black, but the Club Conference expense had temporarily

depleted reserves. No new membership applications had been received for the past month. The transmission of the "AR Newsline" relay was discussed. There was consensus that the new time of 0030z should be tried after suitable advertising. The transmission would also go out on 3560 kHz. WICEN had held its first meeting at the new venue at Scout Headquarters in Murray St, Perth. WARG appealed for any information about possible new repeater sites. WAADCA advised that problems with the link for VK6DLX were due to the use of a temporary antenna. The VHF Group issued an appeal for assistance in obtaining beacon sites at Augusta and possibly at Exmouth. The Hills Group had offered the ATV Group a possible permanent site for the ATV repeater.

Other Business: A graph was shown demonstrating the trend in membership numbers. If the trend continued there would be no members by 2010. The need for a campaign to attract younger people was stated. It was suggested that there was an equal case for targeting, say, the 40 years old group who had settled down and were looking for a hobby interest. It was pointed out, in support, that the average age of those attending the current training course was about 30 years.

Chris Lowe VK6BIK

"QRM" News — VK7 Notes

In this, my first contribution to this section, I must, at the start, pay a big tribute to our retiring correspondent Robin Harwood VK7RH. Robin has done a fine job over a long period keeping everyone informed and entertained on the doings of the Tasmanian hams and we must extend our gratitude to him.

1998 Convention

Well, the 1998 annual meeting and Convention has come and gone and what a great day it was all round. I was thrilled to feel the sense of fellowship very evident all day and into the evening. The pre-loved gear trade table was a Mecca for hams after something different, the trade exhibits were a credit to the firms concerned, and both the amateurs and ladies homebrew competitions had some brilliant examples of people's work.

Over 40 attended the annual meeting – haven't seen THAT many for a long time. A record return of voting papers for the Council election showed that the interest in what's happening in the Division is rising. What a shift around of positions!

A new secretary, Paul Godden VK7KPG from Scamander on the East coast; a new treasurer, John Klop VK7KCC from Ulverstone in the north-west; both new Councillors plus two others, John Bates VK7RT from the South and Tim Holloway VK7TIM from the North. The three branch Presidents, David Spicer VK7ZDJ, Allen Burke VK7AN and Mike Jenner VK7FB become Vice-presidents with changes in many of the ex-officio positions.

I must thank all members for the confidence they have shown in electing me for a further year to the presidency. I promise I'll work hard to earn that confidence. To the hams that are no longer Councillors, and to the hams that are no longer ex-officio members, I say a big thank you for your work on behalf of the whole Division.

Peter Stackpole VK1RX, from the Canberra Australian Communications Authority, and his Tasmanian counterpart Ian Fletcher, did a great job as our guests. We devoted one and a quarter hours to a question and answer time after the annual meeting. With both these fellows amateurs in their own right, and knowing how amateurs think, it made for a lively discussion.

The dinner was a wonderful wrap-up for the day. A "beaut" meal, very good value too, with Peter Stackpole in fine form tearing up the speech prepared for him by his speechwriters in Canberra and going "off the cuff".

The door prize of an Icom tri-band handheld, generously donated by Icom through the good offices of their main Tasmanian distributor, Marcom Watson, was won by Phil VK7PU. The homebrew competition was won by Brenton VK7JB with a brilliant satellite dish set-up; while the ladies craft homebrew competition went to Jo Payne with an absolutely beautiful homespun wool jacket.

What a night, and a credit to the two main organisers Allen VK7AN and Barry VK7BE. The north-west branch is going to have to pull a big rabbit out of the hat next year to beat THAT day. We'll do it though – just wait and see!

I had a great deal of satisfaction in presenting Barry Hill VK7BE, our retiring secretary, with the 1997-98 "Meritorious Service" award. Barry, with his dedicated and meticulous work as secretary, will be a hard act for anyone to follow.

To those that didn't come, it was your big loss; we had a ball!

Ron Churcher VK7RN **ar**

Update

Corrections to previous issues of Amateur Radio magazine

A Geomagnetic Storm Detector

(published on page 9 of Amateur Radio, March 1998)

The author of this interesting article, John Moen VK2KA, has pointed out some corrections to his published article.

On page 9, column 2, line 3, "Lindstadt" should be "Lindstad".

On page 10, Fig 1, the solenoid voltage "+6 V +/- 0.6 V" should be "+6 V +/- 6 V".

On page 11, column 1, line 2, "trimpot R1" should be "potentiometer R1".

On page 11, Parts List, Power Supply, "Apollo sealed lead acid batter (gel)" should read "Apollo sealed lead acid battery (gel)".

Also, in the parts list, the wattage of resistor R5, marked as 1.0 W, is not critical.

A Short History of Electronic Communication

(published on page 19 of Amateur Radio, April 1998)

The author of this informative article is Rex Newsome VK4LR. We apologise for the accidental omission of his name from the article.

A Six to Two Receiving Converter

(published on page 8 of Amateur Radio, April 1998)

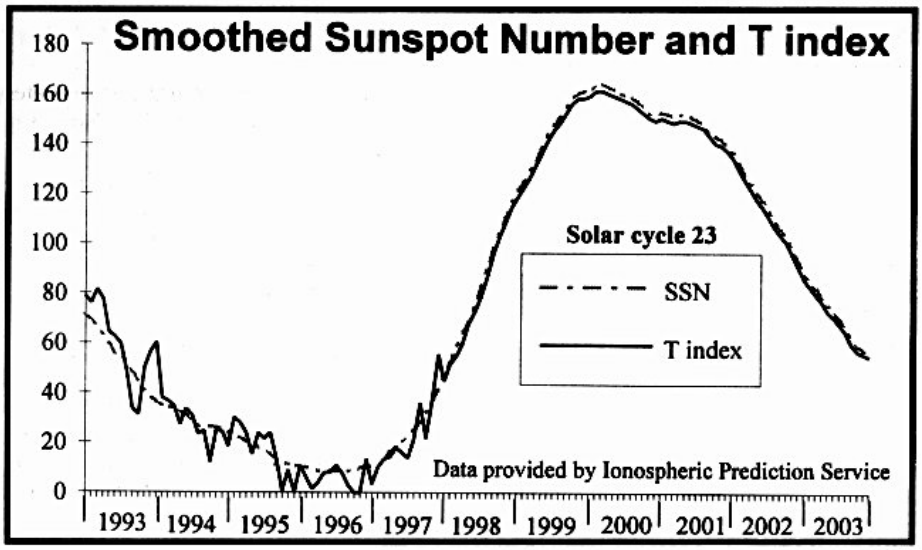
Peter Parker VK1PK, the author of this article, advises that the details of L4, which were omitted from the article, are: **4 turns close wound, 2 mm above L3 on 1/8 inch slug-tuned former**.

Peter also advises that the pin layout diagram for the BF891 should read "(Top view)" rather than "(Bottom view)"

It might be a good idea to correct your copies of the March and April 1998 issues of *Amateur Radio* now. **ar**

Ionospheric Update

Evan Jarman VK3ANI
C/o PO Box 2175, Caulfield Junction VIC 3161



Solar Activity

The year started with solar activity at low to moderate levels. There were some coronal mass ejections and low class M flares during January and March. Eight coronal mass ejections were observed throughout January. They were evenly spaced; one every three or four days. No solar flare activity was reported by the Ionospheric Prediction Service for February. All the flare activity was class M, the more significant being:

1 Jan M1.1	@	0307 UTC
2 Jan M1.1	@	1303 UTC
3 Jan M2.7	@	1719 UTC
15 Jan M1.0	@	1438 UTC
25 Jan M1.3/2B	@	2136 UTC
15 Mar M2.0	@	2146 UTC
18 Mar M1.0	@	1112 UTC
19 Mar M1/1N	@	0125 UTC
22 Mar M1/1N	@	0700 UTC
23 Mar M2.0	@	0309 UTC

Ionospheric Activity

There were some depressed periods during the quarter but these, too, were not severe. All were in the 15% range and mainly affected southern Australia. They were around 10, 21 and 31 January; 1, 12, 14 and 18 February; and 11 March.

Geomagnetic Activity

The quarter was quiet, punctuated by some isolated geomagnetic activity. In January the most significant disturbance (on 7 January) was associated with the coronal mass ejection on 3 January. Activity on 25 January following an impulse was less than expected, rising only to unsettled. The unsettled to active conditions on 18 February followed a coronal mass ejection on 14 February. Similarly, the rise in activity on 10 March was CME related.

Solar Flux vs Sunspot number

The 10.7 centimetre solar flux is plotted in the observations graph each quarter. It is the daily observation from the Penticon Solar Observatory in Canada.

Many amateurs will be more familiar with the sunspot number as a measure of solar activity. It was used before other measures, like the solar flux, became feasible.

The sunspot number is defined as a count of the number of sunspots as well as the number of sunspot groups. It has never been a truly objective measure. Differences between observatories in both their techniques and equipment means the results are statistical filtered.

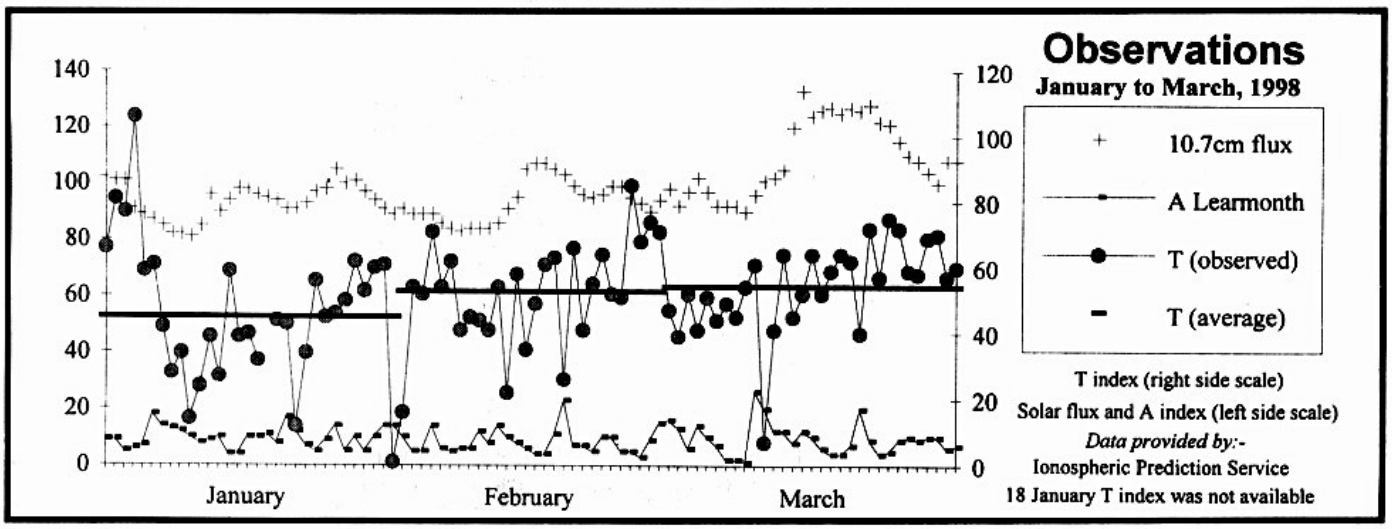
The solar flux has the advantages of being easily measured and being a more objective measurement. The sunspot number has a long history and consequently a large data base. For those who prefer the sunspot number, the two values do have a good statistical correlation. These formulae translate from one value to the other:

$$F=67+0.0572R+(0.0575R)^2-(0.0209R)^3$$

$$R=1.61(F-67)-(0.0733(F-67))^2+(0.0240(F-67))^3$$

where F is the solar flux and R is the sunspot number; named after Rolfe, the man who started the measure.

The factors on the square and cubic components are small and can be reduced to zero as a good approximation. This reduces the formulae to direct correlations. **ar**



HF Predictions

Evan Jarman VK3ANI

T Index: 66

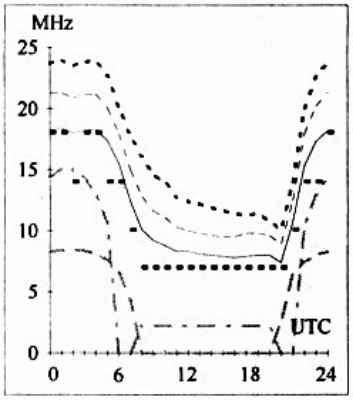
These graphs show the predicted diurnal variation in key frequencies for the nominated circuits. They also nominate the best amateur band for communication.

The frequencies, identified in the legend, are:-

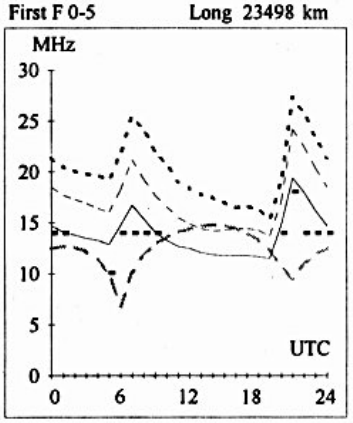
- Upper Decile (F-layer)
- F-layer Maximum Useable Frequency
- E-layer Maximum Useable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency

The predictions were made with the Ionospheric Prediction Service program, ASAPS v3.2. The T index used is shown above the legend. The Australian terminal azimuth, path and propagation mode are also given for each circuit. **ar**

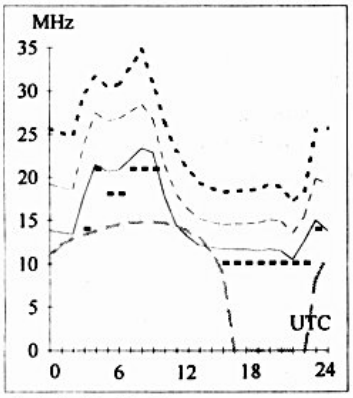
Adelaide-Auckland 104
Second 2F13-14 2E2 Short 3240 km



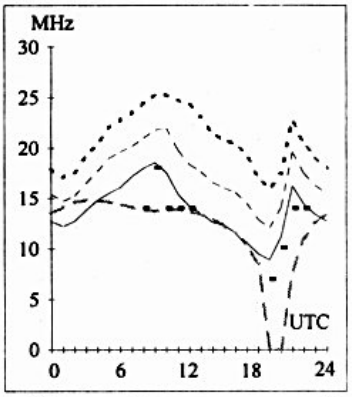
Brisbane-London 147
First F 0-5 Long 23498 km



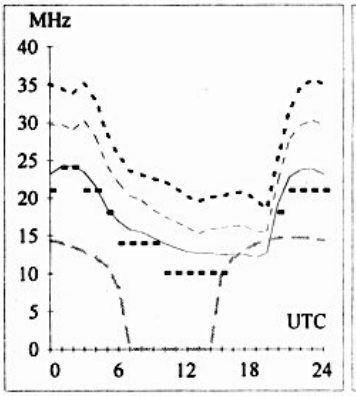
Adelaide-Cairo 288
First F 0-5 Short 13332 km



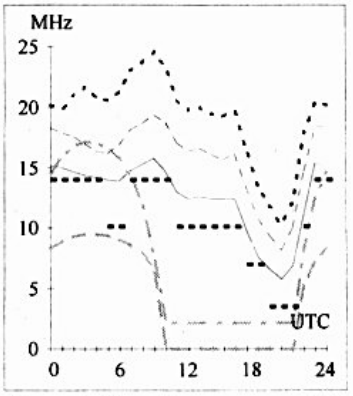
Brisbane-London 327
First F 0-5 Short 16526 km



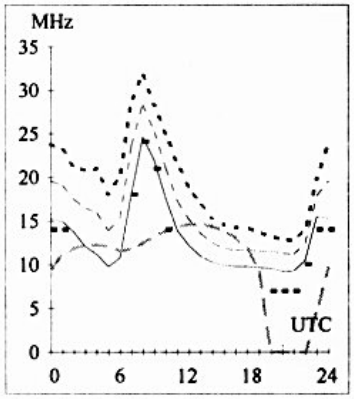
Canberra-Los Angeles 62
First F 0-5 Short 12309 km



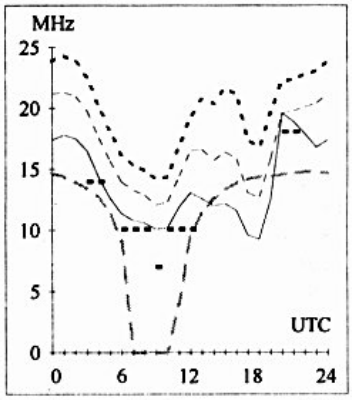
Darwin-Manila 340
Second 2F13-22 2E2 Short 3198 km



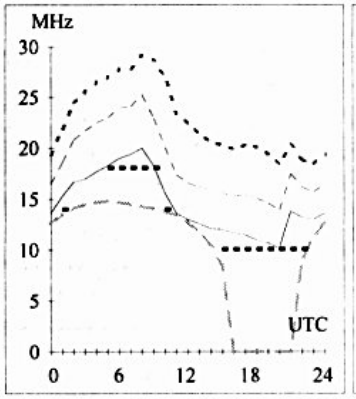
Adelaide-Dakar 233
First F 0-5 Short 16725 km



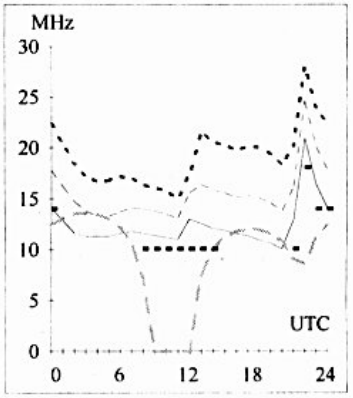
Brisbane-Ottawa 52
First F 0-5 Short 15306 km



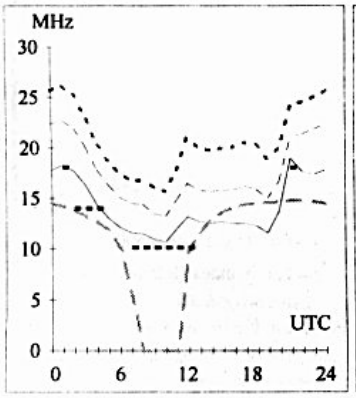
Canberra-Moscow 317
First F 0-5 Short 14481 km



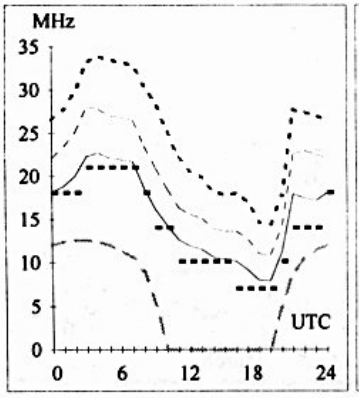
Darwin-Santiago 157
First F 0-5 Short 14421 km



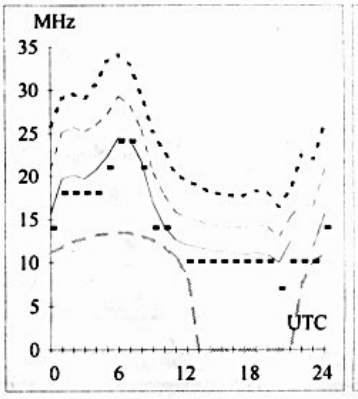
Adelaide-New York 67
First F 0-5 Short 17092 km



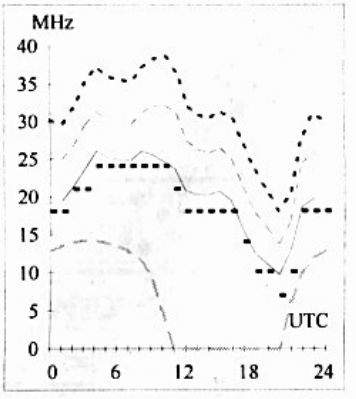
Brisbane-Tokyo 348
Second 3F6-11 3E0 Short 7159 km



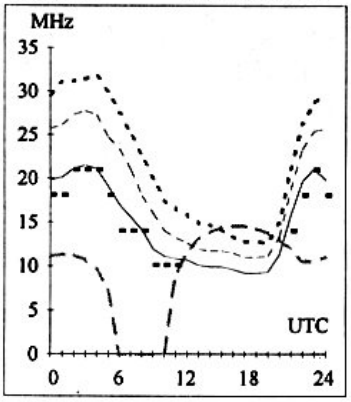
Canberra-New Delhi 303
Second 4F5-9 4E0 Short 10348 km



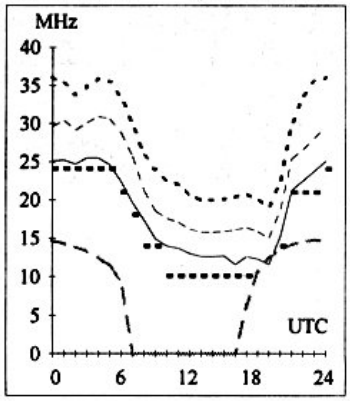
Darwin-Seoul 356
First 2F3-8 2E0 Short 5576 km



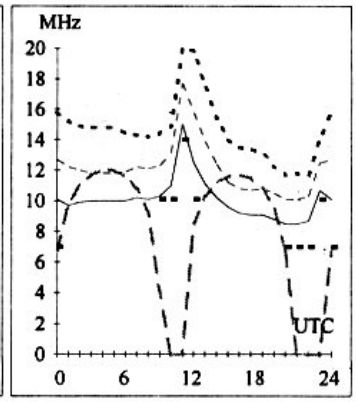
Hobart-Barbados 134
First F 0-5 Short 15823 km



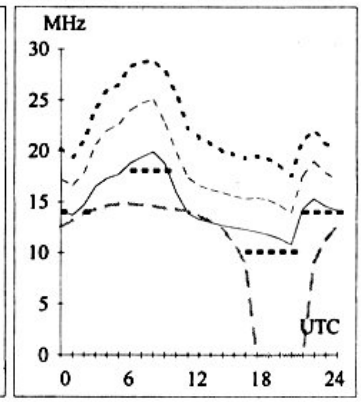
Melbourne-Honolulu 53
First 3F2-6 3E0 Short 8879 km



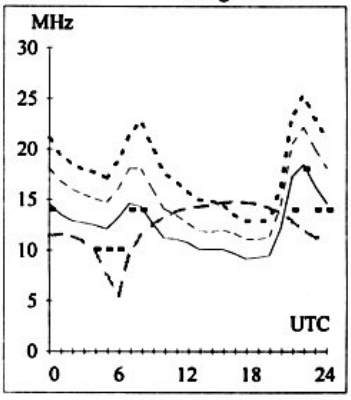
Perth-Buenos Aires 185
First F 0-5 Short 12591 km



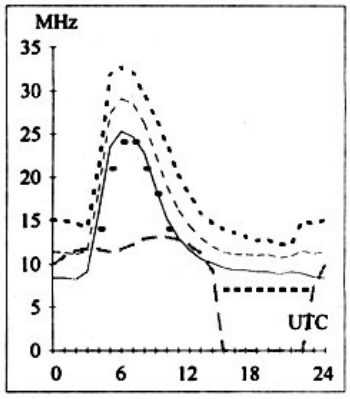
Sydney-Budapest 306
First F 0-5 Short 15778 km



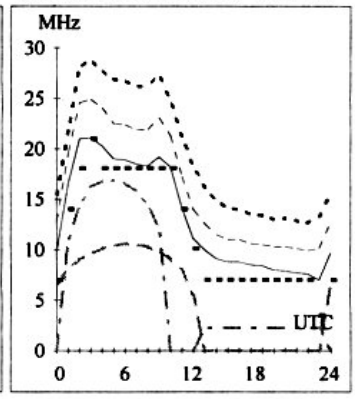
Hobart-London 123
First F 0-5 Long 22619 km



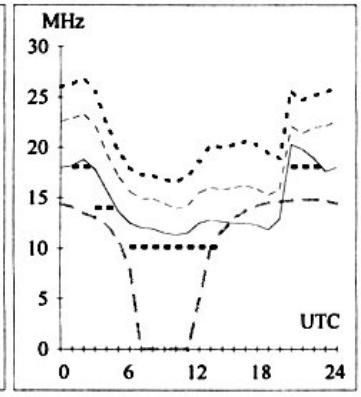
Melbourne-Lusaka 241
Second 4F3-4 4E0 Short 11152 km



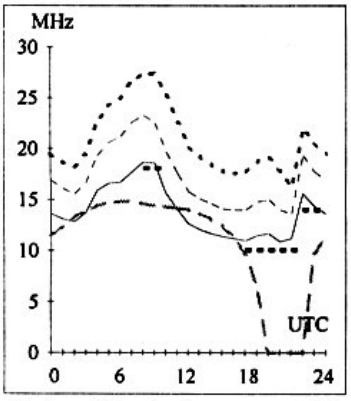
Perth-Colombo 313
Second 3F10.-14 3E Short 5693 km



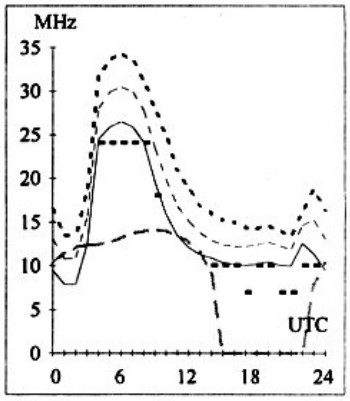
Sydney-Chicago 62
First F 0-5 Short 14876 km



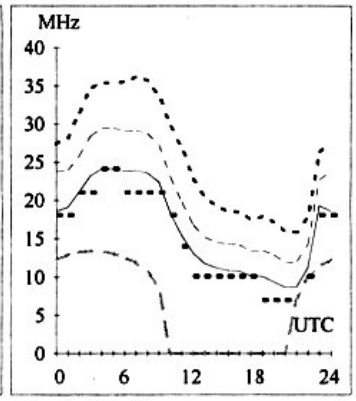
Hobart-London 303
First F 0-5 Short 17404 km



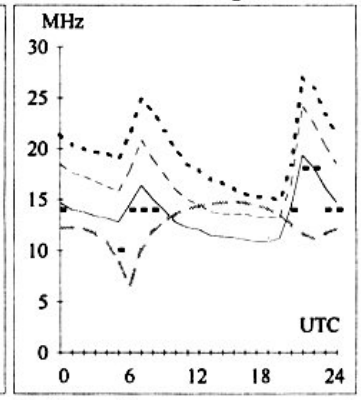
Melbourne-Nairobi 258
Second 4F3-4 4E0 Short 11500 km



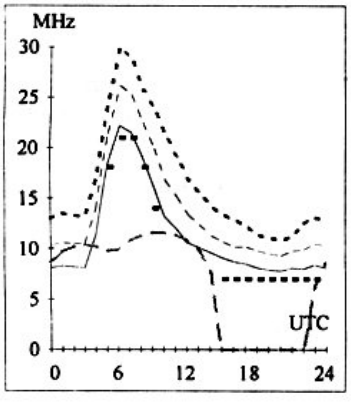
Perth-Osaka 17
Second 3F5-9 3E0 Short 7684 km



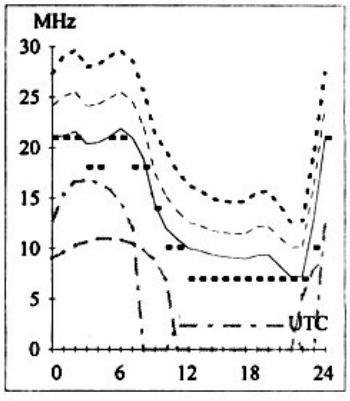
Sydney-Paris 133
First F 0-5 Long 23063 km



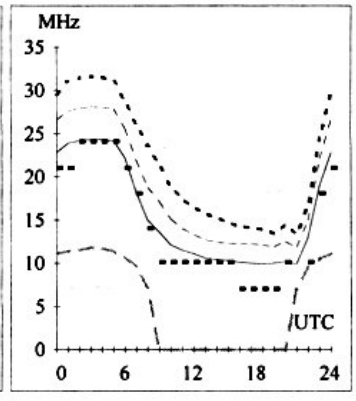
Hobart-Pretoria 232
Second 4F5-6 4E0 Short 10173 km



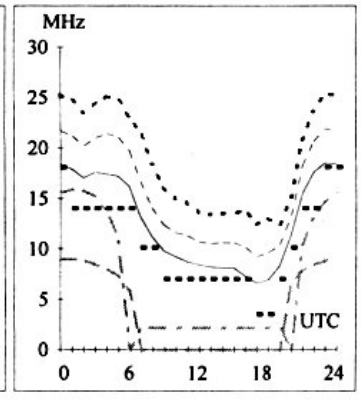
Melbourne-Singapore 306
Second 3F9-11 3E0 Short 6057 km



Perth-Wellington 119
First 2F4-5 2E0 Short 5256 km



Sydney-Suva 64
Second 2F13-15 2E2 Short 3221 km



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- Hamads may be submitted on the form on the reverse side of the *Amateur Radio* address flysheet. Please use your latest flysheet where possible.
- Please submit separate forms for **For Sale** and **Wanted** items, and be sure to include your name, address and telephone number (including STD code) if you do not use the form on the back of the *Amateur Radio* address flysheet.
- Eight lines (forty words) per issue free to all WIA members, ninth and tenth lines for name and address. Commercial rates apply for non-members.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment. WIA policy recommends that the serial number of all equipment offered for sale should be included in the Hamad.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from members who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising (Trade Hamads) are pre-payable at $25.00 for four lines (twenty words), plus $2.25 per line (or part thereof), with a minimum charge of $25.00. Cheques are to be made out to: WIA Hamads.
- Copy should be typed or in block letters, and be received by the deadlines shown on page 1 of each issue of *Amateur Radio*, at:

Postal: 3 Tamar Court, Mentone VIC 3194
Fax: 03 9584 8928
E-mail: vk3br@c031.aone.net au

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● **AMIDON FERROMAGNETIC CORES**: For all RF applications. Send business size SASE for data/price to RJ & US Imports, PO Box 431, Kiama NSW 2533 (no enquiries at office please ... 14 Boanyo Ave Kiama). Agencies at: Assoc TV Service, Hobart: Truscotts Electronic World, Melbourne and Mildura: Alpha Tango Products, Perth: Haven Electronics, Nowra: and WIA Equipment Supplies, Adelaide.

● **WEATHER FAX programs** for IBM XT/ATs *** "RADFAXZ" $35.00, is a high resolution short-wave weather fax, Morse and RTTY receiving program. Suitable for CGA, EGA, VGA and Hercules cards (state which). Needs SSB HF radio and RADFAX decoder. *** "SATFAX" $45.00, is a NOAA, Meteor and GMS weather satellite picture receiving program. Needs EGA or VGA & WEATHER FAX PC card, + 137 MHz Receiver. *** "MAXISAT' $75.00 is similar to SATFAX but needs 2 MB of expanded memory (EMS 3.6 or 4.0) and 1024 x 768 SVGA card. All programs are on 5.25" or 3.5" disks (state which) plus documentation, add $3.00 postage. ONLY from M Delahuntly, 42 Villiers St, New Farm QLD 4005. Ph 07 358 2785.

● **HAM LOG v.3.1** - Acclaimed internationally as the best IBM logging program. Review samples....AR: "Recommend it to anyone": The Canadian Amateur: "Beyond this reviewer's ability to do it justice. I cannot find anything to improve on. A breakthrough of computer technology". ARA: "Brilliant". Simple to use with full help, the professional HAM LOG is immensely popular (now in its 5th year), with many useful, superb features. Just $59 (+ $5 P & P), with a 90 page manual. Special 5 hour Internet offer. Demos, brochures available. Robin Gandevia VK2VN, 02 369 2008 BH, fax 02 369 3069. Internet address rhg@ozemail.com.au.

FOR SALE NSW

● **Multi 7**, 2 m txcvr, well used condn, lots of xtals fitted, $85. VK2HL, QTHR, 02 9971 9795.

● **Yaesu FL-200B**, SSB/AM transmitter, handbook, $150. **Yaesu FV-107** external VFO (5.0-5.5 MHz), brand new in box, never used, $100. Two **AWA MR25A** VHF txcvrs, one converted for 2 m, handbooks, $40 for both. **Pye 9 MHz xtal filter**, including sideband xtals, $45. John VK2ILD, Winston Hills, 02 9686 7541 (AH).

● **Kenwood TS-520S** SSB txcvr, s/n 710196, with **Hustler 4BTV** trap vertical antenna, $380 neg. Jim VK2DEC, 02 4751 5531.

● **Kenwood TS-670S** 6 m/HF, quality classic quad bander, 80 memories, digital, gen coverage of HF, FM unit, s/n 5050640, VGC, service manuals, sale proceeds to promotion of 6 M DX, realistic offers only. Neville VK2QF, QTHR, 02 6373 8624, fax 02 6373 8611.

● **TH6DXX** 6 el triband beam, good mechanical condn, $249. **18 m (60 foot) 3 section Hills galvanised wind-up tower** with guys and turnbuckles, $399. Both dismantled Sydney, reasonable delivery arranged. Ted VK2EZQ, QTHR, 019 460 437.

● **QTH with Council permission for 60 ft tower**, 3 bed brick veneer on flat block, walk Asquith station near Hornsby, block has DA for subdivision, invest for the future, new house, north aspect, high side of street, good DX location. Ted VK2EZQ, QTHR, 019 460 437.

● **Digital rxcvr Band C Galaxy DGT400**, new, box and instruction book, ready for immediate use, $480 ONO. Peter VK2BPO, QTHR, 02 9713 1831.

FOR SALE VIC

● **Icom 23 cm linear amplifier**, 1 W in 10 W out, 12 V supply at 5 A, auto-switching, manual, $150. **Mirage 70 cm pre-amp**, auto switching, 20 dB gain, $100. **MFJ-989C** 3 kW deluxe roller inductor antenna tuner, cross needle SWR/Wattmeter, provision for wire antenna, multiple coaxial antennas and 300 W dummy load, original packaging and manual, $550. **Timewave DSP 9** audio noise reduction filter, 12 volt, Random and Tone noise reduction, CW filters down to 100 Hz, original packaging and manual, $200. **Kantronics KPC-9612** 1200/9600 packet modem (V5.2), original packaging, software and manual, $350. **NALLY galvanised 8 metre tower,** lower section 4.3 metres of 80 mm square tubing with a smaller section inside approximately 8 metres in length, winch attached to base to allow tower to be extended to full height, base section mounted against a wall with hinge bracket to allow easy erection to vertical position by one person, mast locks into a second bracket (supplied) mounted on the wall, dismantled and ready for collection in Hartwell, $200. Chris VK3KCP, 03 9629 2653.

● **Elite Line TX5500** all mode HF linear amplfier, $250. Graeme VK3GPT, 03 5962 6098.

● **New valves**, 5762 $65, 3CX2500F3 $125, 807 $12, 4-125A $55. Used 5762 $45, 3CX2500F3 $85. Many golden era receiving types, 45's, 6D6, 57's, etc. **Vacuum capacitors**, 32 kV fixed 6/12/32 pF, $15. **Air-spaced variables**, 5 kV 250 pF, $45. Glenn VK3FFX, 03 9531 9301.

● **Icom IC-20**, vintage VHF with 7 xtal channels including 3 repeaters and 4 simplex, excellent condn with mic and mobile mount, $60 post free. Peter VK3IZ, QTHR, 03 5156 2053.

● **13 V, 5 A regulated PSU** with V and A meters, $35. **DJ2PU experimental 70 cm amplifier**, 2C39BA, up to 45 W out, 3 spare tubes, manual, solid brass construction, $35. **Yaesu FT-26** 2 m H/T, charger, manual, GC with beaut magnetic base antenna, $150. Andy VK3UJ, QTHR, 03 9726 8879.

● **TS-43X** (TS-430S), s/n 4050599, mobile mounting bracket, hand mic, $800. **FT-690R MK1** 6 m all mode txcvr, s/n 1020867, with home made 25 W linear amp, $275. **FT-620** 6 m SSB/CW/AM 15 W txcvr, s/n 1G010492, 240 V operation, $225. Mike VK3XL, QTHR, 03 9660 4353 (BH), 03 9703 2729 (AH - after 6 pm).

● **Yaesu FT-707** txcvr, s/n 1H180522, $600. **Yaesu FRG7** rxcvr, s/n 6G503297, $150. **Philips PM3200 10 MHz CRO**, $150. **Bondwell 286 laptop computer**, $150. Craig VK3DSG, QTHR, 03 9887 3870.

● **Kenwood TL-922** linear amp, EC, with new finals, $1800. **Yaesu FT-900** mobile HF txcvr, with FSK-900 remote unit, mic, as new in carton, $1450. Rob VK3JE, 02 6027 1077.

FOR SALE QLD

● **Sailor (Denmark) marine radio station** complete; Rx R1119, 10 kHz to 30 MHz; exciter

S1301L; amp T1127/H1200; 26.5 V supply N1400; relays, cables, hand set, manuals, $300. N J Watling VK4YT, QTHR, 07 4038 1731.

● **Kenwood TS-440SAT** HF txcvr with MB-430, MC-43S, s/n 00110657, owners and service manuals, box, $1300. **Tokyo High Power HF ATU**, $275. Shure 444 desk mic, $90. John VK4SKY, QTHR, 014 039 685.

● **Icom IC-502** 6 m txcvr, s/n 8938, with 240 V/12 VDC supply, $125. **Tokyo Hi-power HL66V** 6 m all-mode 60 W amplifier, $150. **Motorola (Systron Donner) service monitor**, 200 kHz to 1 GHz, $1475. John VK4KK, QTHR, 07 3269 6647.

● **Kenwood TS-930S** HF txcvr, $900. **Drake's Radio Cyclopedia**, $35. **Radiotron Designer's Handbook, 4th Edition**, $40. **Admiralty Handbook W/T 1931**, $25. **Ghiradi Radio Servicing**, $15. Western Union codes 1917, General Five Letter Codes 1901, ARRL Handbooks, *Amateur Radio* magazines 1960 to 1987, catalogue 45 cent stamp. Peter VK4APD, QTHR, 07 3397 3751 (AH).

● **Icom IC-740** txcvr, incorporates excellent rxcvr with 2 VFOs, passband tuning, notch filter, RIT/XIT, memories on all bands, very good working order and appearance, good reports on transmissions on all bands, $650, call for copy of specs sheet. **Atlas 210X** compact 100 W txcvr, with mic and manual, $175. **0-250 V auto transformer**, new, 1.8 A, $60. **Kenwood AT-120 ATU**, very compact, great for mobile use, $100. John VK4SZ, QTHR, 07 4061 3286, *johnb@comnorth.com.au*

FOR SALE SA

● **Sony ICF space age receiver**, all band SSB, quartz clock, $400, bargain at $120. **Drake linear amplifier**, pair 3-500Zs, 2000 W, $4000, bargain at $1400. **Akai portable reel-to-reel**, 4 speed, extra Hi Fi tapes available, amplifier not necessary. **4 milliampmeters**, panel mounting, $80, bargain at $30. **Icom AT500**, new, offer wanted. **GE graphic equaliser**. A Shepard VK5DC, QTHR.

● **Kenwood TS-440SAT** HF txcvr, manuals, little use, $1400 ONO. **HF tri-band Yagi**, needs tuning, $50. **10 m two-section tower**, fixed, guyed, offers. **Converted CB base**, 28 MHz xtal, inbuilt PSU and Owr/SWR (old), $50. Chris VK5YZ, 08 8356 4922.

● **Icom IC-706** mobile HF/6 m/2 m all-mode txcvr with remote 3.5 m cable and dash mount, immaculate condn, original carton, s/n 01547, $1500 ONO. John VK5KBE, QTHR, 08 8250 7259.

● Deceased Estate VK5FT: **Kenwood TS-700SP** multi-mode txcvr, s/n 750162, $650. **Kenwood AT-200** antenna tuner (case is water damaged but could be easily repainted), s/n 840706, $150. **Kenwood AT-230** antenna tuner, s/n 5070020, $200. **Kenwood VFO-230**, s/n 1020666, $200. **Drake R4B** receiver, s/n 1481b, $200. **Drake T4XB** transmitter, s/n 18627b, $200. All items ONO and in good working order. Ian VK5QX, QTHR, 08 8250 1708.

FOR SALE WA

● **Kenwood TS-950SD** HF txcvr, $2500 ONO. **Kenwood TS-922** linear amp, $1800 ONO. Two **Eimac 4CX250BC valves**, new in boxes, $400 ONO. **Com-an-tena** beam, 20-15-10, new $300 ONO. **Crank/tilt-over mast** to 30 feet, $200 ONO. M Thomas VK6BMT, QTHR, 08 9399 2024.

● **HAL P38 HF DSP modem**, operates Clover, AMTOR, Baudot, ASCII, Pactor, all modes with DSP performance, $400. C Patchett VK6CW, QTHR, 08 9459 4835.

● **Kenwood TS-520S** HF txcvr, s/n820930, external VFO, external speaker, spare pair of finals, $350 ONO. **Trio/Kenwood TS-120S** 100 watt HF mobile txcvr, s/n930464, $370 ONO. **SSB CB Itron Intruder**, $100 ONO. Chris VK6KRS, 08 9451 4607.

● **TET Delta V** antenna, model DL32S, good condn, $80. Neil VK6NEC, 08 9310 2976.

● **Kenwood TS-680S** HF/6 m txcvr, s/n 9060319, excellent condn, very little use, handbook, MC-80 mic. John VK6NZ, QTHR, 08 9776 7336.

● **Yaesu FT-290R** 2 m all mode txcvr, with carry case, nicads and car charger, VGC, $430. **TA33** tri-band 3 element HF Yagi, recently renovated, $150. Four, **14 foot-long fibreglass rods**, ideal for Quad spreaders, $100. Phil VK6APH, 08 9245 2973.

● **Icom IC-765**, superb base-station txcvr in as-new condition, with FM board and AM narrow filter, complete with original box and manual, very reluctant sale, asking $2,300 or nearest offer. Chris VK6BIK, 08 9574 4060, e-mail *chrismor@avon.net.au*.

● **Kenwood TS-530S**, plus Cushcraft R5 vertical multi-band antenna, SWR meter, co-ax and Morse key, $750 the lot. John VK6AMK, 08 9582 8353.

FOR SALE TAS

● **Yaesu FRG7** receiver, with Trio SP5 spkr, s/n 7H092971, $150. Tony VK7CAJ, QTHR, phone/fax 03 6227 9292.

● **Heathkit SB230** linear amp, uses 8873 triode capable of over 400 W, can be driven by most 100 W txcvrs, with instruction hand book, $600 ONO. **Yaesu YO-301** monitor scope, has 2 tone oscillator, excellent condn, $100 ONO. Bob VK7ARM, QTHR, 03 6257 0400, fax 03 6257 0411.

● **Kenwood TS-430S**, AM/FM board, CW, SSB and AM filters, $850. **GME 0-30 MHz marine vertical**, $135. **Multi Quartz 16** 2 m 10/1 W txcvr, good condn, what offer? **Compakraft serial converter and cartridge, software**, suit C64 and C128, connects to PK323. Allen VK7AN, 03 6327 1171, 0417 354 410.

WANTED NSW

● **Plugins for Bird 43 Thruline** wattmeter, elements 5C, 2.5K and 25K. Guy VK2BBF, QTHR, 02 4751 6726.

● Antennas: **GAP Voyager, KLM KT-34XA, Hy-Gain TH7DXX**. Rotators: **HAM 3** and **HAM 4**. **Collins 8000 system**. Valves: **3-1000**. Tom VK2OE, 02 4646 1024 (evenings).

● **Kenwood TS-180 or TS-820**. Price and details to: Scotty VK2KE, PO Box 385 Albury NSW 2640.

● **Data sheets** for: RF power transistor **SRF1800**; RF power transistor **CD1601**; audio amp chip **TBA810**. Will pay reasonable photocopy costs. Pat Brennan VK2ABE, PO Box 158 Tamworth NSW 2340.

● **MN26C receiver parts**: connecting cable and 6-pin plugs for loop, 23-pin plug for receiver, Bowden cable, hand rotator and direction indicator for loop, junction box. Brian VK2EFD, QTHR, 02 4977 2178.

WANTED VIC

● **Manual or schematic** and valve base voltages for a **Swan SW-240** HF txcvr, willing to pay copying costs. Glenn VK3FFX, QTHR, 03 9531 9301.

● **Galaxy 5** for spare parts. Need output band switch. Jock VK3UB, 03 9499 2973.

WANTED QLD

● **Tuning knob** 100 mm diameter, match existing knob bearing trademark FADA C3; also **second IF transformer** screw-on type shield suit Bandmaster or Radiola receiver 1932/36 vintage. Bill VK4WHS, 9 Kidd Avenue, Maryborough QLD 4650.

● **Crystals 4.9 to 5.5 MHz** in HC6/U holders. L Schmidt VK4JZ, QTHR, 07 5485 3324.

WANTED SA

● **Tektronix spectrum analyser unit type IL20** for the 500 series CRO. C Ratcliff VK5ZST, 08 8520 2988.

WANTED WA

● Yaesu FT-747GX HF mobile, and any information about the remote front panel kit. Chris VK6KRS, 08 9451 4607.

MISCELLANEOUS

● **The WIA QSL Collection** (now Federal) requires **QSLs**. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose VIC 3765, tel 03 9728 5350.

● If you got your licence before 1973 you are invited to join the **Radio Amateurs Old Timers Club**. A $2.50 joining fee plus $5.00 per year gets you two interesting Journals plus good fellowship. Arthur Evans VK3VQ or Milton Crompton VK3MN can supply applications forms. Both are QTHR in any Call Book.

D **Computer Expo, Summerland, Lismore (NSW) City Hall**, Sat 30 May 1998, 9.30 am to 4 pm, latest computers, accessories, Internet, preloved gear, lucky door prizes, refreshments. More info from Peter VK2LED, 02 6622 3862; or Graeme VK2GJ, 02 6685 1336, e-mail *sarc@nor.com.au*.

D **34th Annual Mount Gambier Radio Convention and Fox-Hunting Championships**, 6 - 7 June 1998 (Queen's Birthday weekend). Full schedule available on SERG Website at *http://www.seol.net.au/serg/default.htm*

ar

VK7 New Members

The WIA bids a warm welcome to the following new members of the VK7 Division who have not previously been acknowledged in *Amateur Radio*:

VK7SM	Mr J Duggan
VK7GW	Mr G Walker
VK7MGW	Mr R W McCulloch
L70390	Mr W J Hardman
Listener	Mr M Rudling

WIA Division Directory

The WIA consists of seven autonomous State Divisions. Each member of the WIA is a member of a Division, usually in their residential State or Territory, and each Division looks after amateur radio affairs within its area.

Division	Address	Officers		Weekly News Broadcasts	1998 Fees
VK1 ACT Division GPO Box 600 Canberra ACT 2601	President Secretary Treasurer	Hugh Blemings John Woolner Les Davey	VK1YYZ VK1ET VK1LD	3.570 MHz LSB, 146.950 MHz FM each Sunday evening commencing at 8.00 pm local time. The broadcast text is available on packet, on Internet aus.radio.amateur.misc newsgroup, and on the VK1 Home Page *http://email.nla.gov.au/~cmakin/wiaact.html*	(F) **$72.00** (G) (S) **$58.00** (X) **$44.00**
VK2 NSW Division 109 Wigram St Parramatta NSW (PO Box 1066 Parramatta 2124) Phone 02 9689 2417 Freecall 1800 817 644 Fax 02 9633 1525	President Secretary Treasurer (Office hours Mon-Fri 11.00-14.00) Web: *http://marconi.mpce.mq.edu.au/wia* e-mail address: *vk2wi@ozemail.com.au* Packet BBS: VK2WI on 144.850 MHz	Michael Corbin Eric Fossey Eric Van De Weyer	VK2YC VK2EFY VK2KUR	From VK2WI 1.845, 3.595, 7.146*, 10.125, 14.160, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1281.750 (* morning only) with relays to some of 18.120, 21.170, 584.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup *aus.radio.amateur.misc*, and on packet radio.	(F) **$69.00** (G) (S) **$56.00** (X) **$41.00**
VK3 Victorian Division 40G Victory Boulevard Ashburton VIC 3147 Phone 03 9885 9261 Fax 03 9885 9298	President Secretary Treasurer (Office hours Tue & Thur 0830-1530) e-mail address: *vk3wi@rint.com.au* Web: *http://www.tbsa.com.au/~wiavic/*	Jim Linton Barry Wilton Rob Hailey	VK3PC VK3XV VK3NC	VK3BWI broadcasts on the 1st Sunday of the month, starts 10.30 am. Primary frequencies, 3.615 LSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMU 438.075. Major news under call VK3WI on Victorian packet BBS and WIA VIC Web Site.	(F) **$75.00** (G) (S) **$61.00** (X) **$47.00**
VK4 Queensland Division GPO Box 638 Brisbane QLD 4001 Phone 07 5496 4714	President Secretary Treasurer e-mail address: *wiaq@brisbane.dialix.com.au* Web: *http://www.wiaq.powerup.com.au*	Rodger Bingham Peter Harding John Presotto	VK4HD VK4JPH VK4WX	1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 14.342 MHz SSB, 21.175 MHz, 28.400 MHz SSB, 29.220 MHz FM, 53.725 MHz FM, 147.000 MHz FM, 438.500 MHz (Brisbane only), and regional VHF/UHF repeaters at 0900 hrs EAST Sunday. Repeated on 3.605 MHz SSB & 147.000 MHz FM at 1930 hrs EAST Monday. Broadcast news in text form on packet under WIAQ@VKNET.	(F) **$74.00** (G) (S) **$60.00** (X) **$46.00**
VK5 South Australian Division 34 West Thebarton Rd Thebarton SA 5031 (GPO Box 1234 Adelaide SA 5001) Phone 08 8352 3428 Fax 08 8264 0463	President Secretary Treasurer Web: *http://www.vk5wia.ampr.org/*	Ian Hunt Graham Wiseman Joe Burford	VK5QX VK5EU VK5UJ	1827 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.700 FM Mid North, 146.800 FM Mildura, 146.825 FM Barossa Valley, 146.900 FM South East, 146.925 FM Central North, 147.825 FM Gawler, 438.425 FM Barossa Valley, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 USB, 7.065 USB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. 3.585 MHz and 146.675 MHz FM Adelaide, 1930 hrs Monday.	(F) **$75.00** (G) (S) **$61.00** (X) **$47.00**
VK6 West Australian Division PO Box 10 West Perth WA 6872 Phone 08 9351 8873	President Secretary Treasurer Web: *http://www.faroc.com.au/~vk6wia/* e-mail: *vk6wia@faroc.com.au*	Wally Howse Christine Bastin Bruce Hedland-Thomas	VK6KZ VK6ZLZ VK6OO	146.700 FM(R) Perth, at 0930 hrs Sunday, relayed on 1.825, 3.560, 7.075, 14.116, 14.175, 21.185, 29.680 FM, 50.150 and 438.525 MHz. Country relays 3.582, 147.350(R) Busselton and 146.900(R) Mt William (Bunbury). Broadcast repeated on 146.700 at 1900 hrs Sunday, relayed on 1.865, 3.563 and 438.525 MHz; country relays on 146.350 and 146.900 MHz.	(F) **$62.00** (G) (S) **$50.00** (X) **$34.00**
VK7 Tasmanian Division PO Box 271 Riverside TAS 7250 Phone 03 6327 2096 Fax 03 6327 1738	President Secretary Treasurer	Ron Churcher Barry Hill Mike Jenner	VK7RN VK7BE VK7FB	146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.625 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.	(F) **$74.00** (G) (S) **$60.00** (X) **$46.00**

VK8 Northern Territory (part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz).

Note: All times are local. All frequencies MHz.

Membership Grades
Full (F) Pension (G)
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Three-year membership available to (F) (G) (X) grades at fee x 3 times.

ADVERTISERS INDEX

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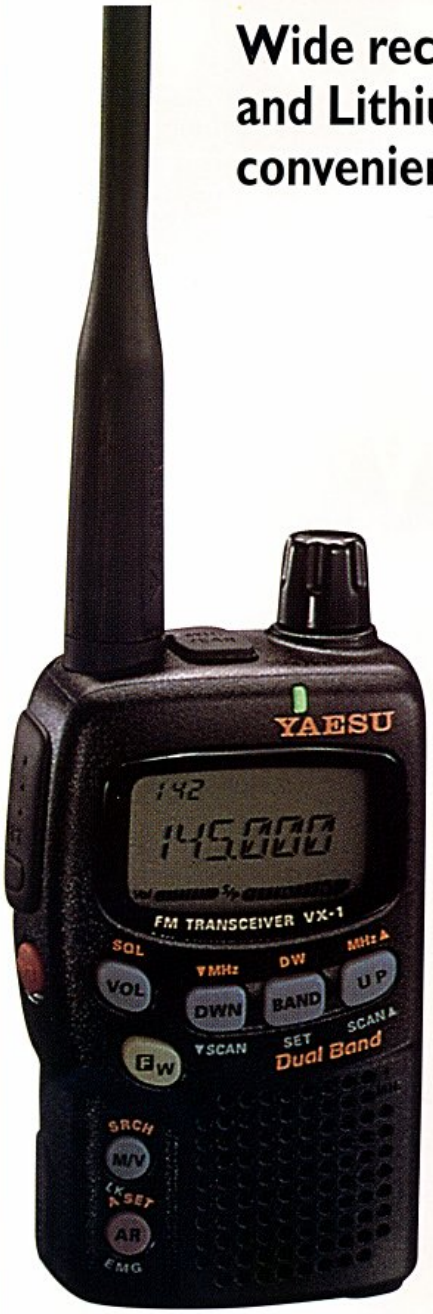

VX-1R shown full size

The new VX-1R is one of the world's smallest dualband amateur rigs, sporting a 2m/70cm transceiver with wideband receiver in a case sized just 81 x 47 x 25mm WHD. It has impressive memory and scanning facilities as well as receive coverage of VHF and UHF TV, AM and FM broadcast band, AM aircraft band and other public service frequencies from 76 to 999 MHz*.

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Besides being a fully-featured dual-band amateur transceiver, the VX-1R has extraordinarily wide receiver frequency coverage: you'll also be pleasantly surprised by the great audio on the FM broadcast band. A dual-watch facility is provided - and together with the AM, FM-narrow and FM-wide reception modes - you'll be having fun even when you're not operating on the amateur bands. For selective calling and listening, the VX-1R also includes a CTCSS encoder/decoder and a 104-code Digital Code Squelch (DCS) system as well as a Tone Search facility for both CTCSS and DCS encoded transmissions.

A great range of accessory lines for the VX-1R are available such as speaker/mics, a carry case, as well as a battery holder for 1 x AA alkaline battery which includes an inbuilt voltage step-up converter. Computer programming of the VX-1R is available via the optional ADMS-1D programming kit.

So when Yaesu says "Dick Tracy, we're waiting for your call" you can be sure they have good reason to do so. In fact, call into your Dick Smith Electronics' Hams Shack store for a demo of this fun new rig. Or phone 1300 366 644 for a copy of the Yaesu colour brochure.

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